

# FINANCIALISATION, ECONOMY, SOCIETY AND SUSTAINABLE DEVELOPMENT

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Study of U.S. Financial System

By

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#### STUDY OF THE U.S. FINANANCIAL SYSTEM

#### SUMMARY OF STUDY

This study consists of 18 chapters covering a range of topics on the U.S. financial system. The topics of the chapters are based on the structure established for each of the country studies within the overall FESSUD project. Each chapter is presented primarily as a stand-alone survey of the most important issues and literature on the 18 topics covered in the study. Given the stand-alone aspect of each of the chapters, it follows that this summary should focus on describing the main points for each of the chapters, as opposed to attempting to identify overarching themes for the 18 chapters. At the same time, Chapter 1, "Historical and Political Background," does offer something of an overview of the broad themes of the study.

#### Chapter 1. Historical and Political Background

The U.S. financial system is the most extensive and complex in the world. As of 2011, total financial assets/liabilities outstanding within the U.S. economy amounted to \$123 trillion, an amount that was more than 8 times higher than U.S. GDP for that year. As of 1980, total financial assets/liabilities were less than 4 times U.S. GDP. Financial market trading as a share of the economy has expanded still faster.

These figures are indicators of a still larger pattern in which financial markets and institutions have come to play an increasingly prominent role in the operations of the U.S. economy. This is the transformation that we now call the "financialization" of the U.S. economy.

One crucial feature of financialization has been the sharp decline in the role of traditional banks and other depository institutions as providers of credit throughout the economy, and the corresponding rise of what we now call the "shadow banking" system. The shadow banking system is comprised of the mutual funds, finance companies, real estate investment trusts, hedge funds, and similar entities. It is





also no longer appropriate to categorize the U.S. financial system as operating primarily within the U.S. economy per se. The U.S. financial system is rather the major nerve center within a global system that has been integrating rapidly since the early 1980s.

This chapter highlights the major factors driving this process of financialization. One has been the enormous advances in information technology. Still more important has been the transition from a highly regulated to a weakly regulated financial system, beginning in the 1970s. This transition created the conditions for the financial bubble beginning in 2003, which, in turn, culminated in the financial crisis of 2007-09 and the Great Recession.

# Chapter 2. The Growth in Finance and its Role in the Era of Financialization

There are numerous approaches to defining and analyzing the process of financialization. There is no single measure which fully captures the multiple dimensions of financialization. Nevertheless, by almost any standard, the size and importance of financial markets and activities has increased dramatically in the U.S. economy, particularly since the 1980s.

As we show in this chapter, there is clear evidence of an expansion of the size and importance of financial markets, financial institutions, and financial interests in the U.S. economy. The financial sector – defined in terms of the national accounts to include finance, insurance, and real estimate (FIRE) – has expanded as a share of the U.S. economy. Incomes based on financial returns – rentier incomes – have grown. Activity in financial markets has grown exponentially. Corporations, businesses and commodity markets, which were traditionally seen as non-financial entities, have exhibited a growing level of financial activities and increased dependence on financial institutions. Corporate governance has changed to emphasize financial returns, rather than profits from productive activities. All these trends have emerged since the 1980s, in correspondence with a steady weakening of the U.S. financial





regulatory system. The timing of the emergence of distinct aspects of the process of financialization has varied. For example, the financialization of commodity markets, in which large financial institutions began taking substantial positions in and trading commodity futures contracts, only began in earnest after 2001. Overall, the broadly-based phenomenon of financialization represents a fundamental shift in the U.S. economy over the past three decades.

#### Chapter 3. The Present Financial Regulatory Framework and

#### Key Changes in Regulation

U.S. President Barack Obama signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act in July 2010. Dodd-Frank is the most ambitious measure aimed at regulating U.S. financial markets since the Glass-Steagall Act was implemented in the midst of the 1930s Depression. However, it remains an open question as to whether Dodd-Frank is capable of controlling the wide variety of hyper-speculative practices that produced the near total global financial collapse of 2007-09, which in turn brought the global economy to its knees, with the Great Recession.

This chapter examines the main features of Dodd-Frank, considering the prospects for this new regulatory system to operate successfully at stabilizing the U.S. financial system. We also report on how the process of implementing Dodd-Frank has proceeded since its passage into law in 2010.

Our most basic conclusion is that, as of early 2013, the U.S. financial regulatory system operates in a state of suspension. As we describe, Dodd-Frank does include some strong regulatory guidelines, including in the areas of proprietary trading, derivative markets, and credit rating agencies. But it has also been clear since its passage in 2010 that Dodd-Frank is weak on establishing specific regulatory measures, providing instead broad guidelines and long transition periods before specific regulations need to be established. This, predictably, has led to serious delays in implementation and widespread opportunities for financial firms to pursue





outright exemptions from laws or at least a weakening of standards that would apply to them. As such, it will likely be years before we know whether Dodd-Frank can be shaped into an effective tool for stabilizing the U.S. financial system.

#### Chapter 4. Structure of Financial System by Form of Organization

This chapter describes the basic structure of the U.S. system of financial intermediation as it operates at present. We do this through examining the balance sheets—i.e. the asset and liability structures—of the various sets of institutions within the current financial system. We provide details on differences in size and balance sheets of the various sets of intermediaries.

We also organize the aggregate balance sheet data so as to cast light on the most important features of the current U.S. financial structure. For example, we group all the financial sector institutions according to four broad categories: 1) Depository Institutions; 2) Insurance Companies and Pension Funds; 3) Government and Government-Sponsored Agencies, including the Federal Reserve here; and 4) Non-Bank Intermediaries, i.e. the institutions that correspond to the shadow banking system.

In considering these four groupings of institutions, what emerges is that, by a considerable margin. the non-bank intermediaries—i.e. shadow-banking institutions—account for the largest share of total financial sector assets. As of the data from 2012 Q.3, non-bank intermediaries collectively hold 36.8 percent of all financial sector assets. Of course, there are substantial differences in the activities of the various institutions within the shadow banking system, as shown by the distinctions between their financial asset and liability holdings. But these differences in the portfolios of the various shadow banking institutions are also fully consistent with the notion of a financial sector in which a range of weakly regulated entities operate at the center of the system.





## Chapter 5. Relationship between the Finance Sector and Other Components of FIRE

In the U.S. economic accounts, there are two primary ways of measuring the role of finance in the economy—through the Flow of Funds Accounts (FFA) and the National Income and Product Accounts (NIPA). In this chapter, we draw upon the NIPA data to present figures on the value added generated by what is termed the FIRE industry of the U.S. economy—finance, insurance, real estate, rental and leasing.

The first key observation presented in this chapter is that the FIRE industry as a whole has risen substantially as a share of GDP over the past 50 years. Specifically, the FIRE industry accounted for just over 14 percent of GDP in 1960. That proportion then rises steadily, through about 1980, at which point the FIRE/GDP ratio is at 16 percent of GDP. The rate of increase in the ratio then accelerates, peaking at 20.9 percent by 2001. By 2011, the ratio had declined modestly, to 20.3 percent of GDP.

This increase of FIRE as a share of U.S. GDP by roughly six percentage points is quite substantial. Overall value added from FIRE activity as of 2011 is nearly \$1 trillion more than it would have been had the share of FIRE remained at its 1960s level. Beyond this, the rates of expansion within the various FIRE sectors have differed over time, but not by amounts that are large enough to constitute meaningful patterns. At the same time, because of the way that the GDP accounts divide the full FIRE industry into sectors, different components of the shadow banking system are incorporated, respectively, into the banking, insurance, and securities sectors.

# Chapter 6. Nature and Degree of Competition between Financial Institutions

The analysis of competition in the financial services industry has long been characterized by major unsettled questions, both in terms of theory and empirical





research. This is true generally, and also with respect to the most recent body of work focused on the U.S. financial system. This becomes evident in considering probably the most basic issue relating to competition in the financial sector, i.e. does increased competition in the financial sector yield generally more favorable or less favorable outcomes? Analysts reach different conclusions here, due to differences in theory, methodology, and the interpretation of evidence. This chapter assesses some of the most important strands of this debate as it focuses on the U.S. system.

The recent literature takes account of four key areas of activity: deregulation; sectoral restructuring; information technology; and industrial technology. For example, deregulation has clearly led to a lowering of entry, exit, and activity barriers within the U.S. financial system. With respect to industrial technology, the proliferation of new financial instruments, in particular derivative financial instruments, has blurred the boundaries between segments of the financial sector, and thus affected the competitive landscape.

The effects of these and related developments on competition are unclear. For example, Crotty identified what he termed the "Volcker paradox" in assessing the role of competition in the contemporary U.S. financial sector. This is the fact that rising levels of competition in the sector coincide with historically high profit rates. We also explore the prospects for smaller-scale financial institutions to compete successfully under contemporary conditions in financial markets. According to research produced by the Federal Reserve Bank of Chicago, smaller-scale "community banks" can compete successfully in the current environment, but primarily through emphasizing personalized service and relationship-based information.

#### Chapter 7. Culture and Norms of the U.S. Financial System

At least since Adam Smith, it has been understood that self-seeking behavior is the central organizing precept and dominant source of energy powering the operations of capitalist economies. However, Smith himself also emphasized that a





market economy could not operate successfully on the basis of individuals pursuing self-interest alone. Smith recognized that a market economy also requires counterweights to the drive for individual self-aggrandizement.

The first counterweight is market competition. However, Smith recognized the limitations of competition as a counterweight to self-seeking in markets. Smith therefore insisted on the need for a market economy to be embedded within what we can today call a culture of solidarity, and what he himself called a system of "moral sentiments."

These ideas from Smith provide the framework for this chapter addressing the issues of culture and norms within the contemporary U.S. financial markets. To begin with, there is no question as to the dominant role played by self-seeking. The challenge is to establish the extent to which competition and social solidarity are operating effectively as counterweights to market-based self-seeking.

With respect to competition, the evidence we review shows how these competitive forces, operating within a basically unregulated U.S. financial market environment, have to a considerable extent encouraged a culture of dishonesty, a bias in favor of short-term over long-term investment horizons, and a propensity to produce financial market bubbles and, thereby, systemic instability.

As for norms of social solidarity, financial regulations are the most tangible expression of the society's will to protect itself against the negative effects of selfseeking and competition in financial markets. We describe in this chapter how the Glass-Steagall regulatory system dramatically eroded as the era of financialization gathered force.

Following the 2007-09 financial crash and recession, there have been efforts to strengthen these norms of solidarity. The single most significant outcome of such efforts has been the passage of the Dodd-Frank financial regulatory reform law. Describing recent work by Shiller, the chapter does also make clear that not all activities in financial markets are socially harmful, nor, by any stretch, that all individuals working in financial markets are personally unethical.





Still, the power of Wall Street within the U.S. economy has created opportunities for gigantic gains for those who are most successful in financial markets. This chapter concludes by describing how, since the early 1980s, the operations of U.S. financial markets have been a major factor contributing to widely recognized increases in U.S. inequality.

# Chapter 8. Financial Innovation and the Rise in Complexity of Financial Instruments

Financial innovation refers to the creation and marketing of new types of financial instruments, financial products, and securities. There are many drivers of financial innovation and diverse theoretical explanations for why financial innovation takes place. Some of the most prominent arguments within the literature include: 1) Innovation is a response to incomplete markets and therefore improves market efficiency; 2) Innovation is a means for circumventing existing financial regulations; and 3) The pace of innovation has accelerated due to advances in information technology.

This chapter presents evidence on the rapid growth of financial innovation in the U.S., beginning in the late 1970s. The patterns on which we focus include the growth of: 1) money market mutual funds; 2) asset- and mortgage-backed securities; and 3) derivative trading, including the derivative market for commodities futures contracts. We also consider the relationship between the rise of innovative practices and the shadow banking institutions which have been primarily responsible for developing these practices.

There are ongoing debates about the impact such innovations have on the financial sector and the economy as a whole. One perspective sees financial innovation as efficiency-enhancing, making markets more complete and mitigating market failures. Others argue that financial innovations contribute to risk and uncertainty, potentially destabilizing financial markets and introducing new market failures.

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This more critical perspective recognizes that innovative financial instruments such as derivatives may lower the price of risk, but this can have the unintended consequence of strengthening incentives for financial investors to engage in riskier behavior. As such, instead of making markets work better, financial innovation may introduce new market failures while operating without the safeguards put in place by the U.S. regulatory framework.

#### Chapter 9. Changing Patterns in Availability and Sources of Funds

The orthodox framework for analyzing the sources of credit supply begins with the premise that financial institutions transmit credit from ultimate saving units mostly households—to ultimate borrowing units, including businesses as well as other households and governments. Within this framework, the system of financial intermediation is seen as playing a largely passive role in transmitting an economy's aggregate saving supply from net surplus units (i.e. lenders) to net deficit units (borrowers). As such, the economy's credit supply, as well as the level of aggregate activity more generally, could be seen in this framework as being *saving constrained*.

This chapter reviews a range of arguments and evidence on the saving constraint as these issues apply to the U.S. economy. We find that the level of credit market borrowing and lending are not closely tied to, much less constrained by, domestic saving rates. The three factors responsible for the divergence between sources of credit and domestic saving rates are: 1) financial innovation; 2) capital inflows into the U.S. markets from foreign sources; and 3) government policies that increase the flexibility of the economy's lending capacity relative to any given level of domestic saving. We describe how the expansion of the shadow banking system plays a critical role in undergirding these three factors contributing to the rise in sources of funds in the U.S. relative to domestic saving rates.

#### Chapter 10. Sources of Funds for Business

To finance their activities, businesses can utilize, in various combinations, either internally generated funds or external funds. Moreover, there are alternative ways





of obtaining external funds—through issuing new equity or bonds, borrowing from banks or on the commercial paper market, mortgage financing, among other possibilities.

In this chapter we show that the use of these various sources of funds vary considerably for U.S. businesses, between and among corporate and non-corporate business firms, and over time. For the corporate sector, we present evidence on the ratios of retained earnings, borrowed funds and financial asset purchases, all as a percentage of the corporations' capital expenditures. We then show the proportions in which corporate liabilities consist of net equity, corporate bonds, commercial paper, and bank loans. We next examine comparable patterns on financing for the non-corporate business sector.

Building from this evidence, the chapter reviews alternative approaches to explain why corporations rely disproportionately on internal funds to finance capital expenditures. The most influential Post Keynesian approach was advanced by Minsky. This approach is similar to the asymmetric information-based models developed by, among others, Stiglitz and Weiss. We also review more orthodox approaches and empirical presentations.

We describe two major sources of variation in business financing patterns. The first is the long-term development of financialization, i.e. non-financial business firms becoming more focused on generating profits through managing their balance sheets as opposed to focusing on non-financial activities as their focal point. A second major change occurred as a result of the 2007-09 recession, which led to previous business financing patterns being overturned. Since the recession, the most lasting change in financing patterns since the recession has been the absence of net new borrowed funds flowing to non-corporate businesses.

#### Chapter 11. Involvement of the Financial Sector in Restructuring

U.S. mergers and acquisitions tend to come in waves. As we show in this chapter, the most recent periods of high levels of merger activity have been the





1960s, the 1980s, and the 1990s. The merger waves of the1980s and the 1990s correspond to the period of financialization. This suggests that financialization and merger activity were contemporaneous processes that interacted in various ways over these decades. These interactions include the mergers that took place within the financial sector itself, but also encompass the ways in which these waves of mergers have been financed and the impact that mergers have had on financial variables, such as stock prices.

There are a number of reasons given for the observed patterns of mergers and acquisitions in the U.S. economy. These include 1) a response to a heightened degree of global competition; 2) an effort to take advantage of economies of scale and related efficiency gains 3) a maneuver to increase market power; 4) a reaction to industry-specific shocks; 5) a strategic response to deregulation and policy changes; 6) weaker enforcement of anti-trust laws; and 7) a drive to increase market share and market access.

A central debate in the literature is the degree to which mergers and acquisitions enhance the long-run operational efficiency of the firms involved. Proponents for the market for corporate control contend that firms which fail to protect shareholder value should be taken over in order to correct these inefficiencies. However, the existence of actual social benefits from the theorized market for corporate control hinges on the realization of real efficiency improvements through the merger process. Studies of the efficiency effects for the U.S. do not yield consistent conclusions with regard to the existence or non-existence of efficiency improvements.

## Chapter 12. Privatization and Nationalization of the Financial Sector

The U.S. financial system has always been predominantly private. At the same time, there are areas of the U.S. financial system in which the government does play a significant role in terms of public ownership or related forms of equity participation, beyond its activities in regulation and macro policy management. By





far, the most important of these is through the so-called Government-Sponsored Enterprises (GSEs) including the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Association (Freddie Mac). The GSE's held \$6.3 trillion in total financial assets, amounting to 9.2 percent of all U.S. financial assets.

At present, the single most important feature of the GSEs' portfolio is the guarantees they provide for mortgage loans in the U.S. They currently guarantee nearly 70 percent of the mortgage loans outstanding in the U.S. market. The federal government does also operate significant loan guarantee programs in the areas of business lending and agriculture. Thus, in considering the extent to which the U.S. financial system has experienced a trend toward privatization, it would be, in the first instance, through the operations of the GSEs.

In fact, the operations of the GSEs have undergone significant changes in recent years, though not in the direction of privatization. Rather, both Fannie and Freddie were nationalized in 2009 as one consequence of the financial crisis. At the same time, the extent to which they operated like private firms, as opposed to entities following a public purpose agenda, increased in the years preceding the crisis.

We also discuss the case of the Bank of North Dakota, the only state-owned bank operating today in the United States. Though this bank operates only on a relatively small scale, its achievements in recent years, especially since the financial crisis, have generated widespread attention.

## Chapter 13. Profitability of Financial Sector and Proximate Causes of Changes in Profitability

One influential approach to defining the process of financialization is in terms of a regime of accumulation in which financial profits account for an increasing portion of total profits. Although we adopt in this study a broader approach to examining issues of financialization, it is still critical to examine trends with respect to profits from financial activities.





We present evidence in this chapter on four separate measures of profitability over time derived from financial relative to non-financial activities. These measures include: 1) The real dollar value of financial and non-financial profits; 2) Financial profits as a share of total corporate profits; 3) Interest, dividends and capital gains as a percentage of total corporate receipts; and 4) the relative shares of portfolio income for corporations from, respectively, interest, capital gains, and dividends.

We find from this data review that trends in financial profits show noticeable growth in the 1980s, regardless of how financial profits are measured. However, in the 1990s and 2000s, financial profits did not show any clear growth relative to other sources of revenues or profits. Instead, this later period appears to be characterized by significant volatility in corporate profits from financial sources.

#### Chapter 14. Households, Financialization and Inequality

This chapter examines three interrelated theme regarding household debt: 1) How the rise of household debt in the U.S. is connected with the broader pattern of financialization; 2) The relationship between household debt and the rise of both wealth and income inequality; and 3) How the rise of household debt contributed to the pattern of increased financial fragility in the years building up to the 2007-09 financial crisis and to the experience of the crisis itself.

As we show, from 1980 – 2007, household debt rose in the U.S., as a share of household income from 70 to 132 percent. This pattern cannot be explained simply by an accelerated rate of household borrowing. Rather, household income growth declined during this period without household debt slowing commensurately. Some analysts explain the rise of the debt/income ratio as resulting from stagnant wages and slower growth in incomes encouraging greater borrowing by households to finance a relatively stable level of consumption. Others argue that the pattern reflects the fact that prior to the 1980s, households were borrowing too little because deregulation distorted credit markets.

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Underlying this aggregate pattern in household debt/income are divergent experiences, depending on differences in levels of household wealth and income. We review the evidence on the rise of household wealth and income inequality since the early 1980s. The impact of rising inequality influenced households' capacity to service their debt obligations. Families in the bottom 20 percent of the income distribution had the lowest median debt-to-income ratios. Yet their debt servicing payments were substantially higher as a share of family income than those for families in higher income brackets.

The rise in household indebtedness prior to the financial crisis contributed to the crisis by increasing the vulnerability of households to macroeconomic shocks. With households having been heavily leveraged, as of 2007 they then had less capacity to meet their debt obligations without avoiding defaults. As such, household consumption declined sharply after 2007 as households tried to cover their obligations as their incomes declined. The rise in defaults then contributed to weakening their creditors' balance sheets, which in turn destabilized the macroeconomy.

# Chapter 15. The Relationship between the Finance Sector and Small/Medium Enterprises

Financial resources for investment and on-going operations vary significantly from small-scale enterprises to medium-sized enterprises to the largest enterprises. Because of these differences, the process of financialization takes on a distinct character for small and medium enterprises relative to large corporations.

This chapter presents evidence documenting the distinct ways that financialization has unfolded among small and medium U.S. enterprises (SMEs). Some of the most important patterns are as follows:

1) SMEs hold financial assets in much smaller proportions of their total assets relative to large corporations;

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2) SMEs rely on bank and mortgage credit for nearly two-thirds of total liabilities, while that figure is only 10 percent for corporations. This reflects the fact that, for the most part, SMEs do not have access to the commercial paper and bond markets;

3) SME's increased their level of indebtedness significantly over the period of financialization, but especially so from 1990 to 2007. However, the ratio of SME debt/assets did not exhibit an upward trend until the onset of the financial crisis in 2007. Prior to that, debt growth had been matched fairly evenly by increases in the value of assets that SMEs were holding;

4) After the onset of the 2007-09 crisis, net new borrowing by SMEs turned negative. As of the end of 2012, there has still not been any net new borrowing by SMEs. In part, this may represent efforts by SMEs to purposefully deleverage in order to improve their balance sheets. But there is also evidence that SMEs have been subject to credit rationing in the aftermath of the crisis.

#### Chapter 16. Effects of the Financial Crisis on the U.S. Economy

The financial crisis of 2007-09 had deep and widespread effects on the operations of the U.S. economy and on U.S. society more generally. In this chapter, we briefly highlight some of the main impacts, including those on: 1) The U.S. housing market and household wealth; 2) The home mortgage lending market and borrowing/lending to businesses; 3) GDP growth; 4) Unemployment and wages; 5) Average incomes and poverty incidence; 6) The conduct of macroeconomic policy and debates around these issues in national politics. 7) State and local government finances; and 8) Political attacks on organized labor.

We begin by describing the collapse of the housing bubble in 2007, with average real housing prices falling by nearly 40 percent between 2006 Q.1 and 2012 Q.3. This in turn produced a nearly 25 percent contraction in overall household wealth and major disruptions in the mortgage financing market. These factors led to GDP growth turning negative in 2009, and a weak recovery of GDP growth thereafter. Rising unemployment and poverty accompanied the sharp decline in GDP growth.





These patterns constitute some of the most important features of the Great Recession as it was experienced within the U.S. The recession led to rising federal budget deficits, due to declining government tax revenues, increased government spending on automatic stabilizers such as unemployment insurance, and the conscious implementation of a major government stimulus policy, the American Recovery and Reinvestment Act (ARRA).

A major reaction to the rise in the federal deficit was a call for eliminating these deficits and imposing austerity budgets, at both the federal as well as state and local levels. Accompanying these efforts to introduce austerity policies has been initiatives to undermine the U.S. public sector, public employees, and workers' rights more generally. One major claim being made by proponents of such measures is that inefficiencies in the operations of the public sector—including excessively high wages and benefits for public-sector employees—themselves produced the rise in government debt. According to this austerity hawk perspective, the primary manifestation of the crisis is the rise of public indebtedness relative to GDP, not the financial market collapse and subsequent sharp rise of unemployment and poverty. The chapter reviews the evidence on these alternative perspectives.

# Chapter 17. Transmission of Macro Policy through the Financial System

The two basic tools of macro policy are fiscal and monetary policy. Strictly in terms of flow-of-funds accounting, both of these tools operate through the financial system. How effectively fiscal and monetary policy operate therefore depends on how the financial market channels are functioning while the macro policy agenda is being pursued. As such, changes in the structure of the financial system will influence the results of macro policy interventions.

For example, if the federal government pursues a fiscal expansion through tax cuts, the effectiveness of the policy will depend on the level of indebtedness being





carried by private households and businesses, since that level of indebtedness will influence the extent to which a tax cut induces increased spending by private agents.

As regards monetary policy, the primary policy intervention is to adjust the federal funds rate up- or downward through Federal Reserve open market operations. However, the effectiveness of any such intervention will depend on several factors. These include 1) the responsiveness of other interest rates, in particular those that apply to business investors, to changes in the federal funds rate; 2) the responsiveness of private investment to movements in the cost of capital; and 3) the financial regulatory structure, which will influence the extent to which funds will flow into speculative or productive investment.

This chapter provides an overview of these issues, focusing especially on the experience since the onset of the 2007-09 financial crisis and Great Recession. With respect to fiscal policy, we show, for example, that the response by households and businesses to the tax cuts components of the ARRA by increasing their spending was diminished because of the heavy levels of indebtedness they carried going into the crisis.

As regards the Federal Reserve's zero interest-rate policy subsequent to the onset of the crisis, we discuss how the impact of this measure as a countercyclical tool was relatively weak. A crucial factor here has been the fact that the financial markets continued to operate at high risk levels. As such, even with the federal funds rate at near zero, the spread was historically large between the risk-free rates and the rates for private borrowers. Smaller businesses, in particular, faced major difficulties obtaining affordable credit.

#### Chapter 18. Globalization and the U.S. Financial System

Globalization of finance takes a number of forms, including greater integration of financial markets across borders, an expansion in the volume of international financial flows, and the increasing extent by which financial institutions and banks operate in multiple countries. The U.S. has occupied a unique and privileged place in





the system of international finance. The dollar remains the dominant currency for international transactions and, therefore, the most important source of foreign exchange globally. Because of its role in international markets, the U.S. financial system has exhibited a strong international character for a significant period of time. Nevertheless, since the 1980s, the pace of integration of global credit markets and financial institutions has accelerated. Recently, the contagion from the 2007-09 financial crisis, particularly with regard to countries in Europe, demonstrated the interconnectedness of U.S. markets to the rest of the world.

This chapter presents an overview of the extent of globalization of U.S. financial markets and institutions. The globalization of finance is examined from two perspectives: 1) the global nature of U.S. credit markets and banks; and 2) the nature of cross-border financial flows, including investment flows. In general, we show that credit markets, the banking sector, and cross-border financial flows have all become increasingly globalized since the 1980s. This trend toward financial globalization has changed the effectiveness of domestic macroeconomic policy. It has weakened the impact of monetary policy on domestic credit conditions and created new channels for economic shocks to be transmitted to other countries.





## Chapter 1. Historical and Political Background

The U.S. financial system is the most extensive and complex in the world. As of 2011, total financial assets/liabilities outstanding within the U.S. economy amounted to \$123 trillion, an amount that was more than 8 times higher than U.S. GDP for that year. Total trading in U.S. financial markets for 2011 amounted to \$25 trillion in U.S. stock markets, 1.6 times GDP; \$225 trillion in bond markets, 15 times 2011 GDP: and as best as we can estimate, roughly \$480 trillion in derivative markets, which is 31 times U.S. GDP for 2011.<sup>1</sup>

These recent figures, moreover, reflect just the current moment in what has been a long-term epoch-defining transformation of the U.S. financial system. Thus, as of 1980, total financial assets/liabilities were less than 4 times U.S. GDP—that is, financial assets/liabilities have more than doubled as a share of the economy between 1980 and 2011. Financial market trading as a share of the economy has expanded still faster. The total value of stock market trading tripled as a share of the economy from 1980–2011. We do not have reliable aggregate figures back to 1980 on the value of bond and derivative trading within U.S. markets. But the evidence we do have suggests that the expansion in trading as a share of the economy was far greater than that for stocks.

<sup>1</sup> Figures on financial assets/liabilities are from the U.S. Flow of Funds Accounts. But neither the Flow of Funds Accounts or any other U.S. government data source provides figures on trading activity in financial markets. We obtained the trading data on equities, bonds and derivatives as follow*s*: Equities: Data on the daily dollar value of trades for the NYSE and the NASDAQ are from SIFMA (Securities Industry and Financial Markets Association) on-line statistics.

(http://www.sifma.org/research/statistics.aspx). The monthly average for January 2012 was used to calculate total annual trading volume in dollars. Bonds: Data on the daily dollar volume for all U.S. bonds are from SIFMA (Securities Industry and Financial Markets Association) on-line statistics (http://www.sifma.org/research/statistics.aspx). The monthly average for January 2012 was used to calculate total annual trading volume in dollars. Derivatives: Data on notional amounts outstanding for over the counter (OTC) and exchange traded derivatives from the Bank for International Settlement's (BIS) database of derivative statistics (http://www.bis.org/statistics/derstats.htm) were used to estimate trading volume for the United States. Estimates were calculated using the North American market share for exchange traded derivatives, as indicated in the BIS data. To keep estimates of trading volume conservative, we assumed an annual turnover of 1 (i.e. annual trading volume was assumed to be equal to notional amounts outstanding). Data were based on June 2011 estimates accessed in March 2012.





These figures are indicators of a still larger transformational pattern in which financial markets and institutions have come to play an increasingly prominent role in the operations of the U.S. economy. This is the transformation that we now call the "financialization" of the U.S. economy. One cannot pinpoint an exact date in which the financialization process came to define the growth trajectory of the U.S. economy. But it is reasonable to allow that financialization began to take serious hold around 1980.<sup>2</sup>

The process of financialization is not only reflected in the increasing size and significance of the financial sector relative to all other U.S. economic activity. Financialization has also brought a major transformation in the central institutions and activities that constitute the financial sector itself. This is most evident in observing the sharp decline in the role of traditional banks and other depository institutions as providers of credit throughout the economy, and the corresponding rise of what we now call the "shadow banking" system. The shadow banking system is comprised of the mutual funds, finance companies, real estate investment trusts, holding companies, hedge funds, private equity funds, and similar entities that began growing rapidly in the 1980s.

Thus, over the decade 1960-69, U.S. commercial banks and other traditional depository institutions such as savings and loans, provided 51 percent of the credit received by all borrowers within the U.S. economy. The share provided between 1960 and 69 by all shadow banking institutions—that is, those non-bank intermediaries that were in operation decades before the term "shadow banking" came into widespread use—was 6 percent. By contrast, for the period 2000 – 2007—i.e. just prior to the onset of the financial crisis—U.S. depository institutions were providing only about 20 percent of all loans to U.S. domestic borrowers, while the shadow banks provided 28 percent, thereby eclipsing the traditional banks as credit providers. Subsequent to the onset of the crisis, i.e. from 2008 – 2012, the percentage of overall credit provided by traditional banks fell still further, to only 8.1

<sup>&</sup>lt;sup>2</sup> This issue is the focus on Chapter 2, "Growth in Finance and its Role in the Era of Financialization."





percent, while, the shadow banking percentage spiked to nearly 80 percent of all net positive loans.<sup>3</sup>

Further, it is no longer appropriate to categorize the U.S. financial system as a set of institutions, portfolios and financial flows that are defined primarily by their operations within the U.S. economy per se. It is rather more accurate to conceptualize the U.S. financial system as being the major nerve center within a global system that has been integrating at rapid rate since the early 1980s. For example, foreign ownership of total U.S. debt rose from roughly 4 percent to 17 percent between 1980 – 2011. Most of this U.S. debt owed to foreigners is in the form of U.S. corporate and Treasury bonds. The outreach of U.S. banking operations into the rest of the world has followed a similar pattern. Thus, considering the U.S. banks that had any foreign offices at all as of 2005, fully 70 percent of these banks' assets were being held through their foreign branches.<sup>4</sup>

What have been the underlying factors driving these processes of financialization, institutional restructuring and globalization of the U.S. financial system? One important factor has been the enormous advances in information technology that have emerged and accelerated since the 1980s. These technical advances in this area have vastly increased the amount of information that can be processed and analyzed throughout the financial system. They have also led to innovations in products and processes within the financial market. The most basic such innovation is the now ubiquitous ATM machine. But in addition, the growing powers of information technology have been crucial for the development of new financial assets, in particular, a wide range of derivative instruments. To a substantial degree, the successes achieved by shadow banks in competition with traditional depository institutions has been due to their ability to create derivative instruments

<sup>&</sup>lt;sup>3</sup> This figure counts as part of the overall net decline in lending undertaken by U.S. government sponsored agencies over 2008-12. All figures in this paragraph are from Chapter 9, "Changing Patterns in Availability and Sources of Funds. In Chapter 4, "Structure of Financial Sector by Form of Organization," we provide related figurers, focusing on stocks of assets and liabilities as opposed to the patterns of lending flows shown in Chapter 9.

<sup>&</sup>lt;sup>4</sup> These patterns are discussed in Chapter 18, "Globalizatin and the U.S. Financial System."





that provided at least the impression of helping investors to more effectively manage risks.<sup>5</sup>

But still more basic than these technological developments has been the dramatic change in the overarching policy regime governing the U.S. financial industry—that is, the transition from a highly regulated to a weakly regulated financial system, beginning in the 1970s. This process gained growing force through the 1980s up until the onset of the 2007-09 financial crisis.

A bit of longer-term perspective is in order here. Throughout the history of capitalism, unregulated financial markets have been dominated by private investors aggressively seeking big returns from asset market upswings. These investors have regularly pushed asset markets to produce financial bubbles and subsequent financial crises. This historic pattern has been most insightfully described by Charles Kindleberger in his classic study, *Manias, Panics and Crashes* (1978).<sup>6</sup>

The most severe crash of an overwrought financial market was the 1929 Wall Street crash. This led to the collapse of the U.S. banking system. Between 1929 and 1933 nearly 40 percent of U.S. banks disappeared. As a result of this economic calamity, President Franklin Roosevelt's New Deal government put in place an extensive system of financial regulations. The single most important initiative was the 1933 Glass-Steagall Act. Under Glass-Steagall, commercial banks were limited to the relatively mundane tasks of accepting deposits, managing checking accounts, and making business loans. Commercial banks were also to be closely monitored by the newly-formed Federal Deposit Insurance Corporation (FDIC), which provided government-sponsored deposit insurance for the banks in exchange for close government scrutiny of their activities. The operations of the commercial banks were also limited geographically. They were permitted to operate within only a single state of the U.S., and not at all outside U.S. borders. Investment banks, by contrast, could freely invest their clients' money on Wall Street and other high-risk

<sup>&</sup>lt;sup>5</sup> These issues are the focus of Chapter 6, "Nature and Degree of Competition between Financial Institutions."

<sup>&</sup>lt;sup>6</sup> This historic pattern is discussed in Chapter 7, "Culture and Norms of the U.S. Financial System."





activities, but were not able to engage in joint activities with commercial banks. Similar regulations were imposed on savings and loans (S&Ls) in 1932, and continued to operate through the 1970s. In particular, under Glass-Steagall, mortgage loans in the United States could be issued only by S&Ls and related institutions. The government regulated the rates S&Ls could charge on mortgages, and the S&Ls were prohibited from holding highly speculative assets in their portfolios.

But beginning during the New Deal period itself, Wall Street leaders sought to eliminate or at least greatly weaken Glass-Steagall. Beginning in the early 1960s, they almost always succeeded. A leading industry figure here was Walter Wriston, who rose to become the head of what is now called Citigroup precisely through devising a range of strategies to circumvent existing Glass-Steagall regulations. The cumulative effect of the efforts of Wriston and other Wall Street leaders was the de facto dismantling of Glass-Steagall. The formal demise of Glass-Steagall came in 1999 when President Clinton signed the Financial Services Modernization Act, following the strong recommendations of then Federal Reserve Chair Alan Greenspan, then Treasury Secretary Robert Rubin and Rubin's successor at Treasury, Lawrence Summers.

With the U.S. financial markets becoming increasingly deregulated, especially since the late 1970s, it is not surprising that the patterns of persistent instability and crises that prevailed throughout the history of capitalism up until the Great Depression reasserted themselves. Thus, the U.S. stock market collapsed in October 1987, falling by 22 percent over three trading days. This was followed in 1989-91 by the S&L crisis, which led to the failure of nearly 25 percent of all U.S. S&Ls. Both the 1987 Wall Street collapse and the S&L crisis required massive federal government bailout operations to prevent a deeper financial panic and possible debt deflation.

A financial crisis next emerged in East Asia in 1997-98, and spread globally from there. The sure-fire investment then was securities markets in developing

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countries. The U.S. hedge fund Long Term Capital Management—guided by two economics Nobel Laureates specializing in finance on their board of directors failed in that crisis, requiring a \$4 billion bailout from other Wall Street firms to prevent a market meltdown. The collapse of the dot.com financial bubble followed in 2001, as a result of stock prices rising relative to earnings to an historically unprecedented level. The government rescue operations from the dot.com bubble then set the stage for the emergence of the unprecedented rise in U.S. housing prices, and the corresponding proliferation of new financial engineering techniques, focused around derivative assets and the U.S. housing market. Of course, these were the conditions that produced the 2007-09 financial crisis and subsequent Great Recession.

In addition to producing these recurrent crises since the 1980s, the weakening of the financial regulatory system also engendered a more general shift in the operating strategies of both financial and non-financial firms in the U.S., creating a bias in favor of short-term financial engineering over long-term "patient investment" strategies. A prime example of this is the so-called "shareholder value" revolution. Under this business model, the goals of corporate executives became defined more explicitly as being to maximize the share prices of the companies they manage. This led corporate CEOs to focus increasingly on short-term objectives capable of raising a firm's stock market price as much as possible in the shortest amount of time. This approach weakened incentives for firms to pursue productive investments and innovations in favor of various forms of financial engineering. One major case in point is the expanding use of stock buybacks as a way for corporate CEOs to boost their firm's share price in the short-term. This enables the CEOs themselves to increase their personal compensation, which has been increasingly tied to the firm's stock price performance.

This, then, is the broader set of institutional and policymaking forces that created the conditions for the financial bubble beginning in 2003, which, in turn, culminated in the financial crisis of 2007–09 and Great Recession. As we discuss in this study,





the collapse of the financial bubble has had enormous repercussions. Thus, despite the fact that the National Bureau of Economic Research has made its official determination that the Great Recession ended in July 2009, the U.S. economy has not yet come close, nearly four years later, to achieving a healthy economic recovery trajectory. For example, over the first three full years since the Great Recession officially ended, GDP growth averaged 2.3 percent and unemployment averaged 9.2 percent. This compares with the average figures for the previous eight post World War II recessions, in which, three years after these recessions ended, GDP grew on average by 4.5 percent and unemployment averaged 6.3 percent.<sup>7</sup>

Conditions in Europe since the onset of the recession have been even worse. Between 2009–2012, GDP growth among all 27 European Union countries averaged -0.25 percent. Average unemployment was 9.7 percent. The projection for 2013 is another year of negative growth. The situation in some European countries, including Spain, Portugal, Greece, and Italy is still more severe. In September 2012, the *New York Times* reported that 22 percent of Spanish households are living in poverty and that 600,000 have no income whatsoever. As the *Times* noted, "For a growing number, the food in garbage bins helps make ends meet."<sup>8</sup> This is despite the fact that both the financial bubble and financial crash originated in the United States, not Europe.

<sup>&</sup>lt;sup>7</sup> These patterns are described in Chapter 16, "Effects of the Financial Crisis on the U.S. Economy."
<sup>8</sup> Suzanne Daley, "Spain Recoils as its Hungry Forage Trash Bins for a Next Meal," *New York Times*, 9/24/12, http://www.nytimes.com/2012/09/25/world/europe/hunger-on-the-rise-in-spain.html?pagewanted=all&\_r=0





# Chapter 2. The Growth in Finance and its Role in the Era of Financialization

There are numerous approaches to defining and analyzing the process of financialization. Some define financialization in terms of the growing importance and influence of financial institutions, including financial markets, and financial interests in national and international economies (Epstein, 2005; Orhangazi, 2008). Others relate financialization to a regime of accumulation, in which profits depend on financial activities and channels, rather than real productive activities or trade in goods and services (Krippner, 2005; Arrighi, 1994). Financialization may also be interpreted as the process whereby financial markets and institutions have an increasingly prominent relationship in the activities of non-financial corporations (Orhangazi, 2006). A similar approach conceptualizes financialization in terms of financial markets having a growing role and greater influence in the dynamics of traditionally non-financial markets and institutions - as in the case of the 'financialization of commodities' (e.g. Tang and Xiong, 2011).

The indicators of financialization vary with the particular focus chosen and there is no one single measurement which fully captures the multiple dimensions of financialization. Nevertheless, by almost any standard, the size and importance of financial markets and activities has increased dramatically in the U.S. economy, particularly since the 1980s. In general, there are three broad approaches for documenting these changes:

- Assessing the size and importance of finance as a distinct sector of the economy.
- Assessing the size and importance of financial activities, incomes and markets in the economy as a whole.
- Assessing the extent to which financial markets have encroached onto the traditional non-financial economy.

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Clearly, these areas are interrelated and there is significant overlap. Nevertheless, approaching the question of financialization from multiple directions provides a more complete picture of the extent of the process within the U.S. economy.

The growth rate of finance defined as a distinct sector of the economy provides one commonly used indicator of the process of financialization. In national accounts statistics, the financial sector is typically defined in terms of finance, insurance, and real estate activities, or FIRE. Figure 2.1 shows the proportion of the FIRE sector in private sector GDP from 1950 to 2010 for the U.S. economy.<sup>9</sup> There is a clear increase in the FIRE share of the private economy in the 1980s and 1990s. In the period 2000 to 2010, the share of FIRE does not continue to rise, but appears to stabilize at a higher plateau – at between 20 and 22 percent of the value-added produced by the private sector.

<sup>&</sup>lt;sup>9</sup> We review similar data trends in Chapter 5, focusing specially on the FIRE sector of the U.S. economy.





## Figure 2.1



Source: U.S. Bureau of Economic Analysis.

Another indicator that is frequently used to assess the growing importance of the financial sector, as a distinct sector, is the growth of employee compensation. Employee compensation in the financial sector increased dramatically relative to other sectors of the economy during the same period in which the financial sector was growing as a share of the total economy, in the 1980s and 1990s (Orhangazi, 2008; Tomaskovic-Devey and Lin, 2011). Employment in the FIRE sector also exhibit higher rates of growth compared to other sectors of the economy (Krippner, 2011). Similarly, profits of financial corporations – returns to invested capital – increased over this same period, with evidence of a particularly dramatic increase in the second half of the 1990s (Dumenil and Levy, 2005). With the rise of the financial sector, the FIRE sector's share of profits increased relative to the share of other core





non-financial industries, such as manufacturing (Krippner, 2005, 2011; Tomaskovic-Devey and Lin, 2011). Similarly, the ratio of profits of financial corporations to the profits of non-financial corporations exhibited a general upward trend beginning in the mid-1980s, despite fluctuations in the ratio over this period (Orhangazi, 2006). FIRE is a diverse sector and not all sub-sectors within the broad financial sector follow identical trends. For example, the real estate and insurance segments have different patterns of profitability compared to banks and securities firms (Tomaskovic-Devey and Lin, 2011). We provide more information on different sectors within the U.S. financial system in Chapter 9.

The drawback with looking at the growth of a 'financial sector' relative to a 'non-financial sector' is that there is often not a clear dividing line between financial and non-financial aspects of the economy. Moreover, measurements of the size of the financial sector will be sensitive to how output, value-added, or profits are measured. For example, are capital gains on financial assets to be included in these measurements? Focusing on finance as a distinct sector of the economy may fail to capture other dimensions of the evolving reach of finance. For these reasons, many have chosen to approach financialization with regard to the size and importance of financial activities, incomes and markets in the economy as a whole without necessarily treating it as a well-delineated sector (Epstein 2005).

One approach to capturing the growing prevalence of financial activities in the economy is to examine sources of income, rather than the relative size of financial services in total production. National income accounts fail to adequately capture all sources of financial income. For example, capital gains linked to realized income on the sale of assets are not captured in the income data generated by the system of national accounts. Financial income often takes the form of 'rents' – returns realized through the control of scarce resources. For this reason, financial income is often referred to as 'rentier income' and trends in rentier incomes provide a different perspective on the process of financialization. Epstein and Jayadev (2005) define rentier incomes to include profits of financial firms and the interest income realized





by the non-financial side of the private economy.<sup>10</sup> They find a marked increase in the share of rentier income between the 1970s and the 1990s in a significant number of OECD countries. In the 1990s, the share of rentier incomes was highest in the U.S. economy among all the countries studied, with much of the growth in U.S. rentier incomes concentrated in the 1980s.

Indicators of income or GDP provide one basis for documenting the relative growth of financial activity, but there are other measures of economic activity that are relevant for understanding the importance of finance in the economy. For example, the volume of financial transactions provides one such measure. Figure 2.2 shows the annual volume, measured in millions of shares traded, for the New York Stock exchange from 1950 to 2010. An explosive growth of trading, beginning in the 1980s is evident. The recent financial crisis, the true extent of which only began to be known in 2008, had a dramatic impact on trading volume. Nevertheless, even in the midst of the crisis, trading volumes remained well above the levels that prevailed in the 1980s and 1990s. Turnover rates on the NYSE, the ratio of the value of total sales to the market value of shares outstanding, also grew during this period of increased financialization (Crotty, 2005). The other major equity market in the U.S., the NASDAQ (the name was originally based on the acronym for the "National Association of Securities Dealers Automated Quotations") showed similar dynamic growth, despite its much more recent history. The NASDAQ was founded in 1971 and expanded rapidly, particularly in the 1980s and later years, making it the second largest equity market in the U.S. after the NYSE.

<sup>&</sup>lt;sup>10</sup> Epstein and Jayadev (2005) recognize that capital gains should be included as part of rentier income, but have insufficient comparable data in order to do so.





## Figure 2.2



Source: New York Stock Exchange.

The growth of equities trading was accompanied by a general increase in the level of debt in the U.S. economy. The expansion of the volume of debt presents another indicator of the process of financialization – in this case, it draws attention to the increase in financial liabilities (for the borrowers) and credit assets (for the lenders). Figure 2.3 shows the ratio of the stock of debt liabilities to GDP for the private sector (i.e. private debt to private sector GDP) and for the entire economy (public and private debt to total GDP). The private sector includes households, nonfinancial businesses, financial businesses, and private not for profit organizations. Private sector debt grew from approximately 100 percent of private GDP to over 300 percent from 1960 to 2011, reaching a peak of 350 percent in 2008, immediately before the U.S. economy collapsed. The ratio of private debt to GDP began to





increase at a faster rate in the early 1980s up until 2008. Total debt outstanding to total GDP shows a similar pattern. This suggests that the relative increase in the debt to GDP ratio was driven by the increase in private debt, not public debt. After 2008, as the crisis unfolded, this situation changed, with public debt increasing and private debt falling. With regard to the private debt, the household sector accounted for about a third of this total: 33 percent of total private debt in 2011. Non-financial businesses, both corporate and non-corporate, accounted for about 29 percent of total private debt in the same year. The accumulation of debt across different segments of the U.S. economy is an important feature of this period of financialization in the U.S. economy, and we examine these issues in more depth later in the report.

# Ratio of debt liabilities to GDP, U.S. economy, total and private sector, 1960-2011

## Figure 2.3

*Source: U.S. Flow of Funds Account, Federal Reserve Board of Governors and the U.S. Bureau of Economic Analysis.* 





One approach to financialization emphasizes the encroachment of financial activities and markets into traditionally non-financial spheres of the economy. For example, U.S. non-financial corporations are increasingly involved in financial activities, not simply in terms of financing investments in productive assets, but also diversifying into financial investments as a direct source of profitability (Crotty, 2005; Orhangazi, 2008). Therefore, evidence of financialization appears on both the liability and assets side of the balance sheet of non-financial corporations. On the asset side, there has been a significant increase in the acquisition of financial assets relative to fixed capital assets by non-financial corporations since the 1980s (Krippner, 2011). In non-financial corporations, financial assets rose from a fifth of total assets in 1950 to half of total assets by the end of 2011 (Orhangazi, 2008; Flow of Funds Account, Federal Reserve Board of Governors). Figure 2.4 illustrates the increase in the share of financial assets for U.S. non-financial corporations from 1970 to 2011. Again, the growth in financial assets as a share of total assets is most evident during the 1980s and 1990s. Since 2000, financial assets' share of the total assets of non-financial corporations had stabilized around 50 percent. The expansion of investment in financial assets has increased the income which non-financial corporations derive from their financial investments, specifically with regard to interest and dividend income (Krippner, 2011; Orhangazi, 2006).




## Figure 2.4



Source: U.S. Flow of Funds Accounts, Federal Reserve Board of Governors.

On the liability side, there has been an increase in the net financial liabilities of non-financial corporations relative to their net worth and internal funds during the period of growing financialization (Crotty, 2005). This indicates that financial claims on the cash flow generated by non-financial corporations has increased – representing another way in which financial interests have increased their presence in non-financial corporations.

Non-financial corporations are not the only institutions experiencing a process of financialization of previously non-financial activities. Recently, there has been a financialization of commodity markets, largely through the entry of large investors into commodity futures markets. "Index funds" represent one class of financial traders in futures markets that have received a significant amount of





attention. Index funds take up net long positions in a portfolio of commodity futures and realize returns by holding this portfolio. However, index funds do not represent the only class of traders with purely financial interests in these markets. The largescale entry of sizeable financial investors into futures markets is a relatively recent phenomenon, with substantial increases beginning around 2001 (Ghosh 2010). Between 2003 and 2008, index funds invested an estimated \$250 billion in commodity markets, with a particular focus on energy commodities (World Bank, 2009). Why did investors suddenly 'discover' futures markets? Research has shown that holding long positions in a portfolio of commodity futures can yield similar returns to those of equity investments in the S&P 500 (Gorton and Rouwenhorst, 2006). Moreover, returns on a portfolio of futures contracts appears to have been negatively correlated with returns on equities, making investment in commodity futures attractive as a diversification strategy when returns in equity markets are not increasing. With the bursting of the 'dot-com' equity bubble at the end of the 1990s and the beginning of the 2000s, commodity futures represented an alternative asset class for financial investors.

The example of energy commodities provides an illustration of the financialization of futures markets. Figure 2.5 shows open interest (i.e. number of contracts) in U.S. crude oil futures at the New York Mercantile Exchange, a major global futures market for energy commodities, relative to the global physical supply of crude oil from 2000 to 2011 (measured in millions of barrels per day of production). The graph shows a significant increase in open interest relative to physical supply beginning in 2002. We would expect trading in futures markets to increase with physical supply if futures markets were used primarily for hedging to stabilize prices for uses in the real economy. The increase in trading relative to the physical supply of oil provides an indicator of the growth of financial investors in energy futures markets.





## Figure 2.5



Source: Commodity Futures Trading Commission and the U.S. Energy Information Administration.

It has been argued that the growth of financial investment in commodities directly contributed to the food and energy price hikes experienced in the mid-2000s, prior to the unfolding of the global financial crisis in 2008 (Ghosh 2010). Financialization of these markets distorted the actual prices of commodities and affected living standards on a global scale. More generally, the financialization of commodity futures markets has the potential to distort price signals in the markets, in ways that are unrelated to the supply and demand of the physical commodity. The implications are far-reaching, especially because movements of oil and food prices will, in turn, be a major factor in influencing macroeconomic policy targeted at controlling inflation. (Ghosh, Heintz, and Pollin 2012).





Another way in which the dynamics of financialization has been conceptualized is in terms of the shift in corporate governance towards the goal of maximizing shareholder value (Lazonick, 2013; Krippner, 2011; Reich, 2008; Fligstein and Shin, 2005; Crotty, 2005). In neoclassical financial theory, maximizing shareholder value should be identical to maximizing profits from productive activities – i.e. financial returns should be determined by the fundamental underlying rates of return from real economic activity. However, in reality, corporate strategies that are removed from real productive activities are often pursued in order to raise share prices via mergers and acquisitions, hostile takeovers, and stock buybacks. The move towards maximizing shareholder value using these techniques represents a process of financialization in the sense that the financial determinants of a firm's value, i.e. its share price, take precedent over the real 'fundamental' determinants of earnings.

One broad indicator of the increased focus on shareholder value is the increase in the price-earnings ratio observed in the U.S. economy. Figure 2.6 shows the price earnings ratio for the S&P 500 from 1960 to 2011. Beginning in the early 1980s, the price earnings ratio begins to trend upwards, with the growth in the ratio accelerating rapidly in the mid to late 1990s. The price-earnings ratio peaked in 2000, the height of the 'dot-com' bubble in U.S. equity markets. After the 2001 recession, the price-earnings ratio returned to levels observed in the mid-1990s, falling somewhat again with the financial crisis in 2008. The spectacular rise in the price earnings ratio has been taken as one indicator of the dominance of the 'maximizing shareholder value' approach to corporate governance, in which increasing share prices, rather than performance (i.e. earnings) was emphasized.





### Figure 2.6



Source: Robert Shiller online data, http://www.econ.yale.edu/~shiller/data.htm,

As suggested above, a number of financial strategies, disconnected from real economic performance, emerged in order to raise share prices. For example, the process of using the financial resources of the company to buy its own stock increased share prices (Lazonick, 2013; Evans, 2003; Crotty, 2005). The increase in share price caused by buybacks would be unrelated to profitability and corporate performance. In fact, if financial resources were dedicated to buying back shares, instead of investing in productive activities, buybacks could undermine corporate performance. Similarly, strategic mergers and takeovers whose primary goal is to increase stock prices are often unrelated to company performance (Fligstein and Shin, 2005). In the process, mass layoffs and downsizing are common outcomes –





again, suggesting that strategies to maximize shareholder value have negative effects on the real economy.

The change in corporate governance is linked to the incentives created with the emergence of new approaches to corporate executive compensation during this period of financialization (Lazonick, 2013). The introduction of stock options and similar stock-based compensation schemes was meant to create incentives for corporate executives to manage their companies in ways which would boost profitability and earnings. However, the disconnect between share prices and earnings meant that stock-based compensation packages created incentives to raise share prices in the short-run, instead of managing corporations in ways that would improve long-run performance. This change in the way in which executives were paid also lead to extraordinary increases in their salary packages, with pay frequently decoupled from the observed performance of the firm (Crotty, 2005; Pikkety and Saez, 2001).

The financialization of the U.S. economy has changed the relationship between the real economy and the financial economy. The primary role of capital markets has increasingly become one of realizing the returns on financial investments, rather than providing a source of funds for investment in productive activities (Crotty, 2005). Futures markets had developed as a way of managing risks through hedging for producers and users of commodities. But with the financialization of these markets, the emphasis has begun to shift towards the return on positions held, instead of price stabilization to allow better production decisions. Much of the financial investment in the U.S. economy is debt financed and as the volume of leveraged financial investment grows, the nature of credit markets is redefined. The relationship between the real economy and the financial economy is complex (Orhangazi, 2011). For example, it is possible that profits from financial investments could be used to support non-financial activities. Nevertheless, the process of financialization is fundamentally changing the nature of financial markets in the U.S. and elsewhere.

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In summary, this section has presented an overview of broad trends in financialization, using a variety of approaches and definitions of what financialization actually means. Regardless of the precise concept of financialization adopted, there is clear evidence of an expansion of the size and importance of financial markets, financial institutions, and financial interests in the U.S. economy. The financial sector - defined in terms of the national accounts to include finance, insurance, and real estimate (FIRE) - has expanded as a share of the U.S. economy. Incomes based on financial returns – rentier incomes – have grown. Activity in financial markets has grown exponentially. Corporations, businesses and commodity markets which were traditionally seen as non-financial have exhibited a growing level of financial activities and increased dependence on financial institutions. Corporate governance has changed to emphasize financial returns, rather than profits from productive activities. All these trends have emerged since the 1980s - a time of sweeping changes in U.S. financial regulations. The timing of the emergence of distinct aspects of the process of financialization has varied: e.g. the financialization of commodity markets only began in earnest after 2001. Nevertheless, the broad based phenomenon of financialization represents a fundamental shift in the U.S. economy over the past three decades.





# Chapter 3. The Present Financial Regulatory Framework and Key Changes in Regulation

#### 1. Introduction

U.S. President Barack Obama signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act in July 2010. Dodd-Frank is the most ambitious measure aimed at regulating U.S. financial markets since the Glass-Steagall Act was implemented in the midst of the 1930s Depression. However, it remains an open question as to whether Dodd-Frank is capable of controlling the wide variety of hyper-speculative practices that produced the near total global financial collapse of 2007-09, which in turn brought the global economy to its knees, with the Great Recession.

Of course, Dodd-Frank would not have been necessary in the first place, and the Great Recession itself would not have occurred, had U.S. politicians—Democrats and Republicans alike—not chosen to dismantle the Glass-Steagall system step-by-step, beginning in the 1970s. The basic argument on behalf of deregulation that began in the 1970s, advanced by an overwhelming majority of mainstream economists, was that Glass-Steagall was designed in reaction to the 1930s Depression and was no longer appropriate under contemporary conditions. This chorus of politicians and economists was correct that the financial system has become infinitely more complex since the 1930s and that Glass-Steagall had become outmoded. But it never followed that financial markets should operate unregulated, as opposed to renovating the regulatory system to address the most recent developments.<sup>11</sup>

Dodd-Frank is a massive piece of legislation, 2,300 pages in length, covering a wide range of issues. These include coordinating the management of the Federal Reserve and other financial regulatory agencies around issues of systemic risk;

<sup>&</sup>lt;sup>11</sup> See, e.g. Dymski, Epstein and Pollin (1993) for discussions on alternatives to deregulation from the perspective of the 1970s and 1980s experience. Chapter 7 of this study on "Culture and Norms of the Financial System" describes in more detail the historical process through which the Glass-Steagall system was weakened over two decades starting in the 1970s, then finally repealed formally in 1999.





bringing hedge funds and derivative markets under regulatory supervision; creating effective prohibitions on proprietary trading by investment banks; establishing new oversight over public credit rating agencies; and creating a consumer financial protection bureau.

It is difficult to fully anticipate the effects over time of any major piece of economic legislation, since economic conditions and institutions are always evolving, including as a result of the regulatory environment. But such difficulties are especially large when trying to forecast the likely impacts of Dodd-Frank. This is because the legislation itself, despite its enormous length, mainly lays out a broad framework for a new financial regulatory system. It left the details of implementation to ten different regulatory bodies in the U.S. These include the U.S. Treasury, Federal Reserve, Securities and Exchange Commission, and Commodities Futures Trading Commission, in addition to requesting action as well from overseas agencies such as the Basil Committee on Banking Reform. Dodd-Frank calls on these agencies to set down 243 separate rules, and to undertake 67 separate studies to inform the rule-making process. The final set of rules under Dodd-Frank is designed to be implemented only over a number of years, up to 12 years in some areas.

The lack of specificity in setting down new financial regulations was widely viewed as a victory for Wall Street, and equally, a defeat for proponents of a strong new regulatory system. This is because both Wall Street lobbyists as well as advocates of strong regulation anticipate that the lobbyists would be able to dominate the process of detailed rule-making to a greater extent than they managed in establishing Dodd-Frank's broad guidelines during Congressional deliberations.

Of course, Wall Street interests moved into the phase of regulatory rulemaking with a strong hand. First, the major Wall Street firms have huge budgets at their disposal to intervene at will during the process of detailed rule-setting. Over the past two years, they have made clear how heavily they are willing to invest in influencing the rule-making process. As the financial journalist Roger Lowenstein reported in





April 2012 regarding the rule-making process for derivative trading, "The derivatives industry is squeezing Washington like a python. Desperate to control the tone and thrust of derivatives regulation, industry lobbyists have been swarming over the Commodities Futures Trading Commission and the Securities and Exchange Commission, each of which is writing derivatives rules as mandated by the Dodd-Frank rule," (Lowenstein 2012).

By contrast, the supporters of strong regulations operate with budgets that are miniscule by comparison. The Wall Street firms also have a direct and intense level of self-interest tied up in the details of specific rulings. For reformers, the level of direct connection, and thus direct interest, is likely to be far less on any given detailed matter. Finally, there is the matter of pure regulatory capture. Regulators understand that they can burnish their future private sector career opportunities if they are solicitous to the concerns of Wall Street while still employed on the public payroll.

These are all unavoidable realities. However, it is still the case that dominance by Wall Street in implementing Dodd-Frank is not a foregone conclusion. Rather, Dodd-Frank remains a contested terrain—supporters of financial regulation can still achieve significant victories within the regulatory framework created by Dodd-Frank. As we will see below, at the time of writing (February 2013), there is some evidence that key features of Dodd-Frank could become effective regulations in practice.

This point is especially significant when considered in context. That is, it is not necessary for the supporters of effective regulations to win victories on all 243 rules that need to be decided, or to have their positions incorporated into all 67 studies mandated by the legislation. Rather, a great deal can be achieved through achieving effective rules in a few key areas within the full expanse of Dodd-Frank.

In this discussion, we focus on three central areas of Dodd-Frank where lobbying efforts have been intense but, equally, where the need for regulation appears most significant to supporters. These are 1) proprietary trading by banks and other financial institutions, 2) oversight of credit rating agencies such as Moody's and

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Standard & Poors' and 3) the markets for commodities futures derivative contracts. In each of these areas, we address the question: under what conditions are some of the basic features of Dodd-Frank capable of succeeding in controlling hyperspeculation and promoting financial stability? We then also provide some current evidence on where matters presently stand in terms of negotiations on implementation.

#### 1. What is Dodd-Frank?

Before beginning to focus on our three main areas of concern within Dodd-Frank, it will be useful to present a somewhat fuller overview of the full legislation. The main features of the Act are well summarized by Acharya et al. (2011):

■ *Identifying and regulating systemic risk.* This feature involves setting up a Systemic Risk Council that can deem non-bank financial firms as systemically important, regulate them, and, as a last resort, break them up; it also establishes an office under the U.S. Treasury to collect, analyze, and disseminate relevant information for anticipating future crises.

■ *Proposing an end to too-big-to-fail.* This feature requires funeral plans and orderly liquidation procedures for unwinding of systematically important institutions, ruling out taxpayer funding of wind-downs and instead imposing requirements that management of failing institutions be dismissed, wind-down costs be borne by shareholders and creditors, and if required, ex post levies be imposed on other (surviving) large financial firms.

• *Expanding the responsibility and authority of the Federal Reserve.* This feature grants the Fed authority over all systemic institutions and responsibility for preserving financial stability.

 Restricting discretionary regulatory interventions. This prevents or limits emergency federal assistance to individual institutions.

■ *Reinstating a limited form of Glass-*Steagall *(the Volcker Rule)*. This limits bank holding companies to de minimis investments in proprietary trading activities,





such as hedge funds and private equity, and prohibits them from bailing out these investments.

Regulation and transparency of derivatives. This provides for central clearing of standardized derivatives, regulation of complex ones that can remain traded over the counter (that is, outside central clearing platforms), transparency of all derivatives, and separation of non-vanilla positions into well-capitalized subsidiaries, all with exceptions for derivatives used for commercial hedging.

Acharya et al. (2011) also describe what they consider to be subsidiary features of Dodd-Frank as follows:

The Act introduces a range of reforms for mortgage lending practices, hedge fund disclosure, conflict resolution at rating agencies, requirement for securitizing institutions to retain sufficient interest in underlying assets, risk controls for money market funds, and shareholder say on pay and governance. And perhaps its most popular reform, albeit secondary to the financial crisis, is the creation of a Bureau of Consumer Financial Protection (BCFP) that will write rules governing consumer financial services and products offered by banks and non-banks (p. 8).

The great scope and complexity of Dodd-Frank should be evident from this description. Nevertheless, as described above, whether the measure succeeds in establishing significant levels of control over the operations of the U.S. financial system does not require that all features be implemented with equal force. Rather, the crucial issue is whether some of the most important features of the Act succeed in withstanding what Lowenstein termed the "python" squeeze from industry lobbyists. We thus now turn to a consideration of the regulations of the Volcker rule, the governance of credit-rating agencies, and the market for derivatives trading.

#### 2. Prohibitions on Proprietary Trading

As Acharya et al (2011) noted, one of the most important provisions of Dodd-Frank is the so-called "Volcker rule." This is actually not one rule, but a serious of





measures, which were strongly supported by former Federal Reserve Chair Paul Volcker, to prevent propriety trading and related highly risky and destabilizing activities by banks. The Volcker rule also aims to impose limits and large capital charges on propriety trades by non-bank financial intermediaries, such as hedge funds and private equity firms.

Propriety trading and related activities by large banks and other major financial firms were a primary cause of the financial bubble as well as the collapse of the bubble and the near total global meltdown in 2008-09. This was due to the fact that proprietary trades by the banks were a key force in sustaining upward pressure on security prices, thereby feeding the bubble. The banks ran large trading books— inventories of securities that they themselves own— and ostensibly operated as market makers only for their clients. But maintaining large trading books enabled them to operate with inside information on their clients' trading patterns to stay ahead of market movements, i.e. to "front run."

In addition, these activities were funded mainly with short-term borrowing and backed up with questionable collateral. The banks were able to operate in this way because the accounting standards for such activities were weak, enabling the banks to operate free of public scrutiny. The proprietary trades were also closely intertwined with hedge funds, insurance companies and private equity funds, often involving credit default swaps and other opaque financial instruments. For example, a large investment bank, such as Goldman Sachs, could sell bundles of mortgage-backed securities to private investors, and these clients could purchase insurance on these securities, in the form of credit default swaps from, say, AIG. All of these transactions could then be debt-financed to an unlimited degree, raising the level of risk exposure to all the parties to each level of transaction—i.e. to the private investors, Goldman Sachs and AIG. It was precisely such channels of

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interconnection, formed on the basis of high levels of leveraging, which fueled the credit market bubble, which in turn led to the crash.<sup>12</sup>

It is difficult to know for certain how large were the banks' proprietary trading activities. Within days of the announcement of the proposed Volcker rules to limit proprietary trading, the business press reported that proprietary trades were actually small parts of the major banks' overall operations. For example, the *Wall Street Journal* reported on 1/21/10 that proprietary trades made up about 10 percent of Goldman Sachs revenue, 5 percent for Citibank, less than 5 percent for Morgan Stanley and less than 1 percent for Bank of America and J.P. Morgan.<sup>13</sup>

However, there is strong evidence that these figures are much too low. This is because it is difficult to separate out propriety trading from trading for clients and market making. All three activities are closely interlinked. Working with the available data, Crotty, Epstein and Levina (2010) found that as of mid-2008, large banks had lost roughly \$230 billion—about one-third of their value as of the 2006 market peak—on their propriety holdings of what were presumed to have been low-risk AAA-rated assets. The banks were holding little to no reserve funds to support these assets in the event of a market downturn. Regulators thought that these were simply inventories of assets held to facilitate client trading. But Crotty et al. show that this proprietary portfolio constituted roughly 1/3 of the total trading portfolio, including assets managed for clients and those available for the banks' use as market makers. Crotty et al. further show that as of 2006, prior to the crisis, propriety trading accounted for a very high proportion of total net revenue for the major investment banks—i.e. 64 percent or more for Goldman Sachs and 43 percent for Morgan Stanley.

#### How Dodd-Frank Could Control Proprietary Trading

<sup>&</sup>lt;sup>12</sup> The literature discussing these interrelationships between the large investment banks and various hedge funds, private equity firms and similar entities, and the impact of these interrelationships in producing the crisis, is now extensive. One excellent relatively brief discussion is Jarsulic (2010). <sup>13</sup> This *Wall Street Journa*l article and related references are presented in Crotty, Epstein and Levina (2010).





Dodd-Frank includes four major features intended to dramatically reduce the risks associated with proprietary trading by banks as well as the highly risky interconnections between banks and other intermediaries, such as hedge funds.

First, the legislation includes a blanket prohibition against banks engaging in transactions involving material conflicts of interest or highly risky trading activities. The precise language in Dodd-Frank reads as follows:

"No transaction, class of transactions, or activity may be deemed...permitted...if it (i) would involve or result in a material conflict of interest...(ii) would result, directly or indirectly in material exposure by the banking entity to high-risk assets or high-risk trading strategies...(iii) would pose a threat to the safety and soundness of such banking entity; or (iv) would pose a threat to the financial stability of the United States." (Dodd-Frank Act, Section 619(2)[(A)[i – iv).

In principle, these are very strong regulatory standards. However, to implement these standards in practice, regulators need to establish clear definitions for the concepts of "material conflict of interest," and "high-risk trading strategy." Without clear and workable definitions of these terms, these provisions of Dodd-Frank cannot possibly succeed in achieving their intended purpose.

In addition to these outright prohibitions, Dodd-Frank also establishes that regulators impose capital requirements or other quantitative limits on trading, such as margin requirements, undertaken by banks or significant non-bank financial firms engaged in risky trading activities. Moreover, the Volcker rule regulations also restrict interactions between banks and non-bank affiliates that are engaged in highrisk trading and investing.

Capital requirements entail that traders maintain a minimal investment of their own cash relative to the overall size of their level of asset holdings, while margin requirements require traders to use their own cash reserves, in addition to borrowed funds, to make new asset purchases. There are two interrelated purposes to both capital and margin requirements. The first is to discourage excessive trading





by limiting the capacity of traders to finance their trades almost entirely with borrowed funds. The second is to force the banks to put a significant amount of their own money at risk when undertaking new asset purchases, i.e. to "put skin in the game."

A key passage in Dodd-Frank on this stipulation reads as follows:

"The appropriate federal banking agencies....[shall] adopt rules imposing additional capital requirements and quantitative limitations permitted under this section if the appropriate (agencies and commissions)...determine that additional capital and quantitative limitations are appropriate to protect the safety and soundness of banking entities engaged in such activities." Section 619(3).

Here again, in principle, these measures can be highly effective at reducing excessively risky practices by banks and other intermediaries. But whether they will succeed in practice will depend on the specific decisions undertaken by the relevant regulatory agencies. As the law in this section is written, the regulatory agencies have full discretion in establishing whether and to what extent "additional capital and quantitative limitations are appropriate to protect the safety and soundness of banking entities engaged in such activities." For the regulatory agencies to make these decisions will require clarity as to the processes which create fragile financial structures and how to apply the regulatory tools most effectively to prevent excessive risk-taking and fragility.

A final key provision of the Volcker rule provisions of Dodd-Frank does precisely call on the regulatory agencies to undertake detailed studies of the sources of risk in bank trading activities. Thus, Section 620 of Dodd-Frank specifically calls on regulatory agencies to identify "high-risk assets" and "high risk trading strategies" by banks, including those occurring both in the banks' trading accounts and their investment accounts. As we have seen above, establishing an effective regulatory regime will depend on the quality of the research and findings coming out of these studies.





The importance of this research becomes even more significant because, even while Dodd-Frank establishes strong general principles for regulation, it also allows for exemptions from regulations as well as various ambiguities that could be readily exploited by the banks. For example, Dodd-Frank allows banks to own some shares in hedge and private equity funds. This could make it easier for banks to hide proprietary trading in the deals executed through hedge funds. Dodd-Frank also allows for proprietary trading as long as such activities support "market-making activities" and "risk-mitigating hedging activities," (from Section 619(d)). It will be difficult for regulators to distinguish these activities from front-running proprietary trading by the banks and other activities entailing conflicts of interest. Such exemptions from the strong regulatory principles articulated within Dodd-Frank are exactly what Stiglitz was referring to in writing that "unfortunately, a key part of the legislative strategy of the banks was to get exemptions so that the force of any regulation passed would be greatly attenuated. The result is a Swiss cheese bill—seemingly strong but with large holes" (2010, p. 335).

In short, Dodd-Frank does provide sufficiently strong regulatory tools for controlling proprietary trading. The real question is whether these tools will be permitted to operate effectively, or whether, alternatively, the Swiss cheese features of the law become predominant over time.

#### Status on Implementing Volcker Rule as of December 2012

At the date of writing, it is not clear that the Volcker Rule will be implemented at all, or if so, what precise form it will take. Lobbying by Wall Street banks against implementation has been intense. Thus, on 12/20/12, the MIT economist Simon Johnson reported in the *New York Times* that the big banks were pursuing a "desperate attempt to prevent implementation," claiming that the measure violates U.S. international trade obligations. Johnson argues that such assertions are "false and should be brushed aside by the relevant authorities." Johnson supports the Volcker Rule as "a significant step in the right direction."





However, other observers offer a less sanguine view of how well the intent of the Volcker Rule has survived in the process of establishing the details of implementation. These skeptics include the Pulitzer Prize winning financial journalist Jesse Eisinger, who wrote the following in April 2012:

The path to gaming the Volcker Rule has always been clear: Banks will shut down anything with the word 'proprietary" on the door and simply move the activities down the hall. To look like they were ready to comply with the Volcker Rule...financial firms quickly spun off or shut down their hedge funds, private equity firms and proprietary trading desks....But Jamie Dimon, the chief executive of JP Morgan, has transformed the sleepy chief investment office, which takes care of the bank's treasury operation, into a unit that hires former hedge fund portfolio managers and slings around giant sums of money in what walks and quacks like prop trading. The chief investment office seems to be not just risk-mitigating, but profit-maximizing.

The issue at hand is how broadly the regulators will interpret the allowance in the Volcker Rule for banks to engage in hedging operations as against speculating on their proprietary accounts. At this point, it is evident that we will not know the answer to that question until the time at which the Volcker rule is implemented in full, and the regulators will be forced to address this question in actual trading situations.

#### 3. Derivative regulations

Financial deregulation, particularly from the late 1990s onward, led to other economic malignancies in addition to being the primary cause of the financial bubble and subsequent financial crash and Great Recession of 2008-09. Dodd-Frank offers an opportunity to address these matters as well.

First on this list of additional malignancies was that the commodities futures derivative markets—including the markets for futures contracts in energy and food commodities—became new venues for Wall Street hyper-speculation.<sup>14</sup>

<sup>&</sup>lt;sup>14</sup> UNCTAD (2009) and Ghosh, Heintz, and Pollin (2012) provide overviews of this development.





Futures markets for food, oil and other commodities have long been used by farmers and others to maintain stability in their business operations and plan for the future. For example, under a "plain vanilla" wheat futures contract, a farmer could spend \$50,000 planting her crop now, and agree now with a commodities futures trader to sell the crop at a fixed price when the crop is harvested. But such simple agreements became increasingly overwhelmed by big-time market speculators in 2000 when the markets were deregulated, along with the rest of the U.S. financial system. Deregulation produced severe swings in the global prices of food and oil. The most severely impacted victims of commodity price volatility are people in developing countries, where it is common for families to spend 50 percent or more of their total income on food. The United Nations found that sharp price increases in 2008—a 40 percent average increase across a range of different food items—led to malnourishment for 130 million additional people.<sup>15</sup>

Provisions of Dodd-Frank offer the opportunity for meaningful control of these markets, as has been widely recognized.<sup>16</sup> Moreover, the regulations that will apply to the commodities futures market will also extend to the trading of derivatives instruments more generally.

Dodd-Frank establishes four basic tools for regulating derivatives: an outright prohibition of agricultural swap markets; capital requirements for organizers of all derivative exchanges, along with margin requirements and position limits for traders on these exchanges. In addition, Dodd-Frank stipulates that most trading be conducted on exchanges as opposed to unregulated over-the-counter (OTC) markets. If these regulations were implemented effectively, they could provide a viable framework for promoting stability in derivative markets.

We have discussed above how capital and margin requirements can be used effectively to dampen excessively risky arrangements between traditional banks and shadow banks. This same tool can also be effective in dampening speculation on

<sup>&</sup>lt;sup>15</sup> This figure was cited by Sheeran (2008), Executive Director of the UN World Food Programme.

<sup>&</sup>lt;sup>16</sup>See, e.g., *The Economist*, 11/12/10, which views negatively the possible effectiveness of Dodd-Frank in this area.





derivative markets. We therefore focus here on position limits, especially as they apply to commodities futures markets. We also examine the issue of granting exemptions to the regulations, which are permitted in principle under Dodd-Frank.

#### Position Limits and Exemptions

Dodd-Frank requires the Commodities Futures Trading Commission (CFTC) to establish limits on contracts for physical commodities. The purpose of position limits is to prevent large speculative traders from exercising excessive market power. That is, large traders can control the supply side of derivative markets by taking major positions, either on the short or long side of the markets. Once they control supply, they can then also exert power in setting spot market prices.

Determining the appropriate level at which to set the position limits has been a major focus of the regulatory rule writing around derivative regulation. One principle on which the CFTC has tried to develop an approach is to set limits based on the actual position levels of "commercial traders" as opposed to "index traders." "Commercial traders" are producers or consumers of commodities, such as farmers, oil companies or airlines who wish to hedge against future market risks; "non-commercial traders" are brokerage houses or hedge funds that will sell futures or swap contracts to commercial traders; and "index traders" are those holding positions in a basket—i.e. index fund—of commodities. They trade based on the movements of this index fund relative to movements in other asset markets, such as stocks, bonds, and real estate. The index traders are generally large hedge funds or equity holding companies.

However, the most serious problem here is that as trading practices have become more complex, it becomes increasingly difficult to clearly establish distinctions between "commercial" and "index" traders, certainly for purposes of writing regulations that could hold firm against legal challenges. This point was illustrated well in a paper by Silber (2003). Silber describes how two types of traders, what he terms "market-makers" and "speculators", establish their positions and manage their risk exposure. Market-makers are customer-based

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traders, corresponding closely to what the CFTC has termed "commercial traders," who earn money on the bid/ask spread without speculating on future prices. Silber's category of "speculators," corresponding to the category of "index traders," are those who earn money trying to anticipate the direction of future price movements. The key relevant point here is that Silber's discussion makes clear that balance sheets are insufficient to determine whether a trader is a market-maker or a speculator. This means that speculators can readily engage in activities that, at least through examining their balance sheet, would make them appear to be market-makers. To date, as we will discuss further below, the CFTC has not resolved how to set position limits appropriately.

#### Scope of Coverage and Exemptions

The expansion in regulatory coverage through Dodd-Frank for derivative markets includes some potentially significant exemptions. The first is the commercial enduser exemption to clearing. This provides exemptions to any swap counterparty that is 1) not a financial entity; and 2) is using the swap to hedge or mitigate commercial risk. But even more generally, the CFTC may grant any exemptions it deems appropriate from the prescribed position limits.

The aim in offering such exemptions is to prevent the Dodd-Frank regulations from imposing excessive burdens on derivative market participants who are legitimate hedgers, and are thereby not contributing to destabilizing the markets. This may be a desirable goal in principle. But in practice, it will be difficult for the CFTC to sort out which market participants truly merit exemptions by the standards established. As such, the effectiveness of the entire regulatory framework around derivative markets will hinge on the CFTC proceeding with great caution in offering exemptions.

#### Status of Derivative Regulation as of December 2012

As noted at the outset, Lowenstein reported as of April 2012 that the "derivatives lobby has U.S. regulators on the run." According to Lowenstein, not only has the industry been squeezing Washington "like a python." They have also developed fall-





back positions in case the outright DC power play should falter in its effects. Lowenstein writes:

In case their lobbying falls short, the industry—largely dealer banks and commodity firms—have been pushing legislation that would pre-empt the rule-making process and tie the agencies hands. So far, no fewer than 10 such derivatives bills have been introduced in the House; two have passed and several more have cleared committee. Not satisfied with that, influential lawmakers have been not so subtly warning regulators to go easy on derivatives. This is incredibly intimidating: Congress controls the agencies' budgets, and the increase in workload mandated by Dodd-Frank leaves them woefully short of funds. And should a derivatives rule unpalatable to the dealers somehow survive the Beltway obstacle course, the agencies face an explicit threat of a lawsuit. This has had a chilling effect. As Bart Chilton, a CFTC commissioner, told me, regulators fear that there is "litigation lurking around every corner and down every hallway" (2012).

Surveying the terrain eight months after Lowenstein's article, his perspective clearly continues to prevail to date. Thus, Gregory Meyer in the *Financial Times* reported on 12/19/12 that "a wave of new delays to financial reforms has been approved by the U.S. derivatives regulator as Wall Street scrambles to meet a year-end deadline for compliance. Since the start of the month the CFTC has issued 21 letters postponing enforcement of new rules for dealers as the \$649 trillion off-exchange derivatives market is regulated for the first time." Nevertheless, the CFTC Chair Gary Gensler argues that these are only temporary delays, necessary for smoothing the transition to a regulated marketplace. Gensler holds that the letter and spirit of the Dodd-Frank regulations will still be implemented in full, though definitely not within the originally established timetable.

Of course, it is not within the scope of this discussion to surmise on the ultimate outcome of the rules on position limits and other derivative market regulations. At this point, suffice it to say that the main issues remain unsettled and that Wall Street





continues to fiercely resist the establishment of significant regulatory standards in this highly lucrative market.

#### 3. Regulating Credit Rating Agencies

The major private credit rating agencies—Moody's, Standard & Poors, and Fitch—were significant contributors in creating the financial bubble and subsequent financial crash of 2008-09. The rating agencies were supposed to be in the business of providing financial markets with objective and accurate appraisals as to the risks associated with purchasing any given financial instrument. Instead, they consistently delivered overly optimistic assessments of assets that either carried high, or at the very least, highly uncertain risks.

Moreover, the reason these agencies consistently understated risks was not simply that they were relying on economic theories that underplay the role of systemic risk in guiding their appraisals, though this was a contributing factor. The more significant influence was market incentives themselves, which pushed the agencies toward providing overly favorable appraisals. That is, giving favorable risk appraisals was good for the rating agencies' own bottom line, and the rating agencies responded in the expected way to these available opportunities. The most effective solution would be to create a public credit rating agency that operates free of the same perverse incentive system that distorts the work of private agencies.<sup>17</sup>

The Dodd-Frank Act contains a provision addressing this question, written by Senator Al Franken, based on a proposal from James Lardner of the Demos Institute (2009). The Franken provision calls on the SEC to create a ratings oversight board with investor representatives in the majority. This board will choose a rating agency to conduct the initial evaluation of each new set of structured finance products. Securities issuers would not be allowed to participate in the assignment of raters, and the assignments would be based on an evaluation of accuracy of ratings over time. In addition, under this approach, the SEC will have an Office of Credit Ratings with the authority to write rules and levy fines. Investors will now be able to recover

<sup>&</sup>lt;sup>17</sup> Diomande, Heintz and Pollin (2009) develop this approach to regulating credit rating agencies.





damages in private anti-fraud actions brought against rating agencies for gross negligence in the rating. Rating agencies are also required to establish their ratings on a consistent basis for corporate bonds, municipal bonds, and structured finance products and instruments.

The ratings agencies and banks fought hard to weaken this Franken amendment. The final outcome in the legislation was that Dodd-Frank required the SEC to undertake a two-year study, and on the basis of the study to either implement the Franken proposal or an alternative that eliminates the conflict of interest problem with rating agencies.

The SEC did issue its initial report on 12/18/12. However, this initial report decided to take no position on how the regulations in this case should proceed. As Sarah Lynch of Reuters News reported that the SEC "outlined potential ways to reduce conflicts of interest at the country's largest credit-rating agencies, but failed to take a strong stand on specific industry reforms. Instead, the SEC report abstained on the next steps and recommended further discussion of the matter."

#### 5. Conclusions

It is reasonable to conclude from this survey that, as of early 2013, the U.S. financial regulatory system operates in a state of suspension. This is despite the fact that the 2007-09 financial crisis generated a reversal in thinking on the question of whether contemporary financial markets require strong regulations. The passage of Dodd-Frank in 2010 was the result of U.S. policymakers accepting the idea that a new regulatory system was indeed needed.

As we have discussed, Dodd-Frank does include some strong regulatory guidelines, including in the areas of proprietary trading, derivative markets, and credit rating agencies. But it has also been clear since its passage in 2010 that Dodd-Frank is weak on establishing specific regulatory measures, providing instead broad guidelines and long transition periods before specific regulations need to be established. This, predictably, has led to serious delays in implementation and widespread opportunities for financial firms to pursue outright exemptions from

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laws or at least a weakening of standards that would apply to them. As such, it will likely be years before we know whether Dodd-Frank can be shaped into an effective tool for stabilizing the U.S. financial system.





### Chapter 4. Structure of Financial System by Form of Organization

This chapter describes the basic structure of the U.S. system of financial intermediation as it operates at present. We do this through examining the balance sheets—i.e. the asset and liability structures—of the various sets of institutions within the current financial system. We provide details on differences in size and balance sheets of the various sets of intermediaries. In Chapter 9, on "Sources of Funds," we present complementary data on the flows of credit within the system.

The U.S. Flow of Funds Accounts (FFA) include separate flow and balance sheet accounts for 22 distinct types of financial intermediaries operating within the U.S. economy. In Table 4.1, we present the full set of these financial intermediaries, working from the most recent 2012 Q3 figures from the FFA. We then also show their shares of total financial assets and liabilities within the U.S. financial system, and the major assets and liabilities on each of their balance sheets—specifically, including all assets and liabilities. We can obtain an understanding of the detailed operations of each type of institution by comparing their differences according to their portfolio of assets and liabilities. The institutions are listed in order according to their overall level of asset size.

### **TABLE 4.1.**

## STRUCTURE OF FINANCIAL SECTOR BY FORM OF ORGANIZATION Figures are for 2012.3

Total	Share of U.S.	Primary financial	Total	Share of total	Primary
financial	financial	asset holdings*	liabilities	liabilities	liabilities*
assets	assets held by			held by	
(billions)	intermediaries			intermediaries	



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U.S. chartered depository institutions	\$11,811	17.2%	Mortgages: \$3,945 Loans: \$1,699 Agency and GSE backed securities: \$1,673 Consumer credit: \$1,186 Misc. assets: \$887 Corporate/foreign bonds: \$543	\$12,224	18.8%	Small time and saving deposits: \$6,776 Misc. liabilities: \$2,166 Checkable deposits: \$1,268 Corporate bonds: \$410
Mutual funds	\$9,262	13.5%	Corporate equities: \$5,004 Corporate/foreign bonds: \$1,702 Agency and GSE securities: \$1,067 Municipal securities: \$613 Treasury securities: \$428	\$9,262	14.2%	Total shares outstanding: \$9,262
Private pension funds	\$6,599	9.6%	Corporate equities: \$2,254 Mutual fund shares \$2,370	\$6,635	10.2%	Pension fund reserves: \$6,635***
Government -sponsored enterprises	\$6,305	9.2%	Mortgages: \$4,845 Loans and advances: \$488 Agency and GSE securities: \$330	\$6,236	9.6%	GSE issues: \$6,112
Life insurance companies	\$5,562	8.1%	Corporate/foreign bonds: \$2,148 Corporate equities: \$1,528	\$5,199	8.0%	Pension fund reserves: \$2,631** Life insurance reserves: \$1,344 Misc. liabilities: \$1,182
Holding companies	\$3,754	5.5%	Misc. assets: \$3,516***	\$1,794	2.8%	Corporate bonds: \$9,345 Misc. liabilities: \$600





State and local government retirement funds	\$3,093	4.5%	Corporate equities: \$1,890 Corporate/foreign bonds: \$326	\$3,245	5.0%	Pension fund reserves: \$3,245***
Monetary authority	\$2,838	4.1%	Treasury securities: \$1,645 Mortgage-backed securities: \$835	\$2,810	4.3%	Depository institution reserves: \$1,440 Checkable deposit and currency: \$1,186
Money market mutual funds	\$2,507	3.6%	Security RPs: \$513 Treasury securities: \$456 Time and saving deposits: \$405 Agency and GSE securities: \$331 Open market paper: \$319 Municipal securities: \$272 Corporate/foreign bonds: \$93	\$2,507	3.9%	Total shares outstanding: \$2,507
Funding corporations	\$2,256	3.3%	Corporate/foreign bonds: \$919 Investment in brokers and dealers: \$575 Investment in foreign banking offices: \$118	\$2,256	3.5%	Misc. liabilities: \$1,626 Corporate bonds: \$557
Brokers and dealers	\$2,051	3.0%	Misc. assets: \$949 Treasury securities: \$191 Security credit: \$172 Corporate/foreign bonds: \$168	\$1,960	3.0%	Customer credit balances: \$783 Misc. liabilities: \$473 From U.S depository institutions: \$242





Foreign banking offices in U.S	\$1,978	2.9%	Loans: \$416 Misc. assets: \$338 Corporate/foreign bonds: \$224	\$2,003	3.1%	Large time deposits: \$680 Misc. liabilities: \$658 Federal funds and security RPs: \$288
ABS issuers	\$1,824	2.7%	Home mortgages: \$961 Commercial mortgages: \$488	\$1,824	2.8%	Corporate bonds (net): \$1,738
Finance companies	\$1,600	2.3%	Consumer credit: \$681 Loans and advances: \$413 Mortgages: \$189	\$1,554	2.4%	Corporate bonds: \$1,019 Investment by parent companies: \$156
Federal government retirement funds	\$1,546	2.2%	Misc. assets: \$1,223 Treasury securities: \$154	\$1,546	2.9%	Pension fund reserves: \$1,546
Property- casualty insurance companies	\$1,436	2.1%	Corporate/foreign bonds: \$360 Municipal securities: \$258 Corporate equities: \$258	\$885	1.4%	Misc. liabilities: \$893
Agency and GSE backed mortgage pools	\$1,408	2.0%	Home mortgages: \$1,302	\$1,408	2.2%	Total pool securities: \$1,408
Exchange - traded funds	\$1,268	1.8%	Corporate/ foreign bonds: \$147 Corporate equities: \$1,047	\$1,268	2.0%	Total shares outstanding: \$1,268
Credit unions	\$898	1.3%	Home mortgages: \$326 Consumer credit: \$238 Agency and GSE backed securities: \$197	\$813	1.3%	Small time and savings: \$739 Checkable: \$109





REITs	\$565	0.8%	Agency and GSE securities: \$368 Mortgages: \$45	\$792	1.2%	Security RPs: \$320 Mortgages: \$189 Corporate bonds: \$163 Misc. liabilities: \$102
Closed-end funds	\$254	0.4%	Municipal securities: \$84.6 Corporate/ foreign bonds: \$63.1 Corporate equities: \$100.8	\$254	0.4%	Total shares outstanding: \$254
Banks in U.S affiliated areas	\$75	0.1%	Depository institution loans: \$18 Home mortgages: \$17 Commercial mortgages: \$15 Misc. assets: \$13	\$72	0.1%	Checkable deposits: \$21 Small time and saving deposits: \$19 Large time deposits: \$19 Misc. liabilities: \$19 Net interback liabilities: \$5.3

Source: U.S. Flow of Funds Accounts

**Notes**: \*Assets and liabilities that account for more than 10% of the intermediary's total assets and liabilities are included.

\*\* Annuity reserves held by life insurance companies, excluding unallocated contracts held by private pension funds, which are included in misc. liabilities.

\*\*\* Equal to the value of nonfinancial and financial assets.

\*\*\*\* Including net transactions with depository subsidiaries, broker and dealer subsidiaries and other subsidiaries.

The first point that stands out in Table 4.1 is that U.S. chartered depository institutions—i.e. primarily commercial banks—still collectively hold the largest proportion of total assets and liabilities among all financial sector institutions, at 17.2 percent of the total. This is despite the decline in the significance of these institutions relative to the non-bank intermediaries, i.e. the "shadow banks," a point to which we return.

What characterizes the portfolios of depository institutions? Their primary liabilities are their deposits, including, most importantly, time and saving deposits,





as well as checkable deposits. They also hold a very large amount of "miscellaneous liabilities," which are, in fact, larger in amount than their checkable deposits.<sup>18</sup> On the other side of the ledger, their largest set of assets is mortgages, amounting to nearly \$4 trillion. Bank loans and GSE-type securities are roughly of the same magnitude, at close to \$1.7 trillion each.

Mutual funds are the next largest set of institutions by asset holdings, at 13.5 percent of the total. Thus, measured by assets, the mutual funds are the most significant type of institution that can be included as part of the shadow banking system. If we were to include the money market mutual funds 3.6 percent share of total financial sector assets, that would bring the total for mutual funds to 17.1 percent of financial sector assets, i.e. at rough parity with commercial banks.

By a substantial margin, the primary type of asset held by mutual funds is corporate equities, at \$5 trillion. Corporate and foreign bonds amount to \$1.7 trillion total, then GSE-type securities, at \$1.0 trillion. The liabilities of mutual funds are the total outstanding shares of the investors in the fund.

What distinguishes *money market* mutual funds is the short-term nature of their assets. That is, security repurchase agreements are the largest single asset, at \$513 billion, followed by Treasury securities, and time/saving deposits. Again, their liabilities are the shares held by the investors in the fund.

The four largest sets of financial institutions are commercial banks, mutual funds, private pension funds, and government-sponsored agencies. Together these four types of intermediaries account for roughly 50 percent of all financial sector assets. If we include the next two largest sets of intermediaries, life insurance companies and holding companies, these six account for 63 percent of all assets held by the financial sector. Of these six largest sets of institutions, four are more "traditional"—i.e. commercial banks, private pension funds, government-sponsored

<sup>&</sup>lt;sup>18</sup> In examining Tables L228 – L.232 of the FFA, which presents evidence on "Miscellaneous Financial Claims," it is not possible to establish what these liabilities held by depository institutions amount to. The problem is equivalent with the depository institutions' assets as well, though the amount, at \$887.4 billion, is smaller than with liabilities.





agencies and life insurance companies—while mutual funds and holding companies are components of the shadow banking system. In terms of this set of the largest institutions, it does then appear that the traditional institutions are the most significant in the U.S. financial sector at present.

However, we obtain a fuller picture of the structure of the U.S. financial sector by considering the data presented in Table 4.2. Here we have grouped all the financial sector institutions according to the same four categories that we used in considering the flow of sources data. These categories are: 1) Depository Institutions; 2) Insurance Companies and Pension Funds; 3) Government and Government-Sponsored Agencies, including the Federal Reserve here; and 4) Non-Bank Intermediaries, i.e. the institutions that correspond to the shadow banking system.

## Table 4.2 Asset Levels and Shares of Total Financial Sector Assets *Data for 2012 Q.3*

A) U.S. Located	Depository	Institutions	and Affiliates
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	Total Assets	Share of Total U.S.
		Financial Sector Assets
U.S. Chartered	\$11.81 trillion	17.2%
Depository Institutions		
Foreign Banking	\$2.0 trillion	2.9%
Offices in U.S.		
Credit Unions	\$898 billion	1.3%
Banks in U.S. Affiliated	\$75.2 billion	0.1%
Areas		
TOTALS	\$14.78 TRILLION	21.5%

### B) U.S. Insurance Companies and Pension Funds

	Total Assets	Share Financi	of al	Total	U.S. Sector
		Financi	at As	ssels	
Life Insurance	\$5.56 Trillion	8.1%			





Private Pension Funds	\$6.60 Trillion	9.6%
State and Local Govt.	3.09 Trillion	4.5%
Retirement Funds		
Federal Govt.	\$1.55 Trillion	2.2%
Retirement Funds		
Property-Casualty	\$1.44 Trillion	2.1%
Insurance		
TOTAL	\$18.24 Trillion	26.5%

## C) Government and Government-Sponsored Agencies

	Total Assets	Share of Total U.S.
		Financial Sector
		Financial Assets
Government-Sponsored	\$6.30 Trillion	9.2%
Enterprises		
Federal Reserve	\$2.84 Trillion	4.1%
Agency and GSE-Backed	\$1.41 Trillion	2.0%
Mortgage Pools		
TOTAL	\$10.55Trillion	15.3%

## D) U.S. Non-Bank Intermediaries

	Total Assets	Share of Total U.S.		
		Financial Sector		
		Financial Assets		
Mutual Funds	\$9.26 Trillion	13.5%		
Holding Companies	\$3.75 Trillion	5.5%		
Money Market Mutual	\$2.51 Trillion	3.6%		
Funds				
Funding Companies	\$2.26 Trillion	3.3%		
Brokers and Dealers	\$2.05 Trillion	3.0%		
Asset-Backed Securities	\$1.82 Trillion	2.6%		
lssuers				
Finance Companies	\$1.60 Trillion	2.3%		
Exchange-Traded Funds	\$1.27 Trillion	1.8%		
Real Estate Investment	\$565 Billion	0.8%		





Trusts		
Closed-End Funds	\$253 Billion	0.4%
TOTAL	\$25.34 Trillion	36.8%

Source: U.S. Flow of Funds Accounts

In considering these four groupings of institutions, what emerges is that, by a considerable margin, the non-bank intermediaries—i.e. shadow-banking institutions—account for the largest share of total financial sector assets. As we see, as of the most recent 2012 Q.3 data, non-bank intermediaries collectively hold 36.8 percent of all financial sector assets. This compares with insurance companies and pension funds which collectively account for 26.5 percent of all assets. U.S. depository institutions—i.e. commercial banks, savings and loans, and credit unions—hold only 21.5 percent of all financial sector assets. The Federal Reserve and government-sponsored agencies account for the remaining 15.3 percent.

Overall then, in examining the most recent balance sheet data on the U.S. financial sector data, we again observe the central place of the shadow banking institutions within the overall system. Of course, there are substantial differences in the activities of the various institutions within the shadow banking system, as shown by the distinctions between their financial asset and liability holdings. But these differences in the portfolios of the various shadow banking institutions are also fully consistent with the notion of a financial sector in which a range of weakly regulated entities operate at the center of the system.





## Chapter 5. Relationship between the Finance Sector and Other Components of FIRE

In the U.S. economic accounts, there are two primary ways of measuring the role of finance in the economy—through the Flow of Funds Accounts (FFA) and the National Income and Product Accounts (NIPA).

The FFA documents activity in the financial sector through the balance sheets of financial institutions. In Chapter 4 of this study on "Structure of the Financial Sector by Form of Organization," we provide basic data on the balance sheets of all 22 sets of institutions constituting the finance sector by the FFA as of 2012. In Chapter 9, on "Sources of Funds," we present the relative changes in the institutions supplying credit within the U.S. economy. These figures are derived from the flow accounts within the FFA.

In this chapter, we draw upon the NIPA data to present figures on the value added generated by what is termed the FIRE industry of the U.S. economy—finance, insurance, real estate, rental and leasing. More specifically, within NIPA, the FIRE industry includes six sectors:

- 1. Federal reserve banks, credit intermediation, and related activities
- 2. Securities, commodity contracts, and investments
- 3. Insurance carriers and related activities
- 4. Funds, trusts and other financial vehicles
- 5. Real Estate
- 6. Rental and leasing services and lessors of intangible assets.

Given the way the NIPA sectors are organized, it is not as straightforward to observe, for example, the shadow banking sector relative to the traditional banking, insurance, and pension fund sectors, as we did with the FFA data. Nevertheless, we are able to observe useful patterns on the relationship between the finance sector and other components of FIRE through the NIPA figures.

#### Overall FIRE Industry as a Share of GDP

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The first key observation is that the FIRE industry as a whole has risen substantially as a share of GDP over the past 50 years. We can see this in Figure 5.1. As Figure 5.1 shows, the FIRE industry accounted for just over 14 percent of GDP in 1960. That proportion then rises steadily, through about 1980, at which point the FIRE/GDP ratio is at 16 percent of GDP. The rate of increase in the ratio then accelerates, peaking at 20.9 percent by 2001. By 2011, the ratio had declined modestly, to 20.3 percent of GDP.



This increase of FIRE as a share of U.S. GDP by roughly six percentage points is quite substantial. Within the context of U.S. GDP in 2011 at about \$15 trillion total, six percentage points of that \$15 trillion total amounts to \$900 billion. That is, overall value added from FIRE activity as of 2011 is nearly \$1 trillion more than it would have been had the share of FIRE remained at its 1960s level.

#### **Components of FIRE**

Within the overall FIRE industry, the relative shares of the sector have changed over time, though not dramatically. Because of data limitations within the GDP




accounts, we are not able to observe the subsectors within FIRE prior to 1977. The reason why the sectoral figures are not broken down more finely prior to 1977 is that, in the pre-1980 era, many of the subsectors of FIRE were not sufficiently large or active to warrant their own statistical category.

In Figure 5.2, we thus show the four main sectors within FIRE each as a share of U.S. GDP from 1980 to 2011. These main sectors are real estate and leasing, combined as one; banks and intermediaries; insurance companies, and security/investment firms. The main conclusion that emerges from Figure 5.2 is that these four main FIRE sectors have grown at somewhat varying rates since 1980, though without any strong patterns of change having developed. Real estate and leasing, combined, were the largest sector within FIRE as of 1980, at 11.1 percent of GDP. They remained the largest sector within FIRE as of 2011, at just below 13 percent of GDP. Banks and intermediaries rose more rapidly on a proportional basis, from 2.6 to 3.6 percent of GDP between 1980 and 2011, but nevertheless remained much smaller as a sector than real estate/leasing. The increases of insurance and security investment firms as a share of GDP were more modest but still substantial, with insurance rising from 1.9 to 2.6 percent of GDP between 1980 and 2011, while security firms rose from 0.3 to 1.2 percent of GDP over these years.







Overall, the conclusion that emerges from these figures are: 1) The value added by FIRE to U.S. GDP has risen substantially over time; and 2) The rates of expansion within the various FIRE sectors have differed, but not by large enough since 1980 amounts to constitute a meaningful pattern.

Because of the ways that the GDP accounts divide the full FIRE industry into sectors, it is difficult to see from these accounts the growing role of the shadow banking system within FIRE. That is, under the sectoral divisions of FIRE that have operated since 1977, different components of the shadow banking system are incorporated, respectively, into the banking, insurance and securities sectors. As such, the figures presented here are still fully consistent with the idea of a major structural shift occurring within FIRE, away from the less traditional institutions in favor of the shadow banking system.





# Chapter 6. Nature and Degree of Competition between Financial Institutions

The analysis of competition in the financial services industry has long been characterized by major unsettled questions, both in terms of theory and empirical research. This is true generally, and also in terms of work focused on the U.S. financial system. This situation continues to be present. Indeed, the experience of the 2007-09 financial crisis has only highlighted the ongoing ambiguities in how economists—including those operating within a mainstream framework as well as more heterodox analysts—understand the role of competition in the financial sector.

This becomes evident in considering the most basic issues relating to competition in the financial sector, beginning with the question, 'Does increased competition in the financial sector yield generally more favorable or less favorable outcomes?' Analysts reach different conclusions here, considering just the body of mainstream literature. There are also major differences on even prior, strictly methodological questions. That is, what are the most appropriate ways to define and measure competition in the financial sector? For a long time, researchers utilized standard concepts and indicators of concentration developed within the industrial organization literature, such as the structure-conduct-performance (SCP) hypothesis. They tested the SCP hypothesis using standard concentration measures, such as the Herfindahl-Hirshman Index. More recent research has attempted to develop alternative measures of competitiveness, including indicators of market structure that allow for the possibility that different sizes and types of institutions may affect competitive conditions differently.

The depth of the problem is well characterized in the introductory observations of a major survey paper on financial sector competition published in 2009 by the IMF:

The degree of competition in the financial sector matters for the efficiency of production of financial services, the quality of financial products and the degree of innovation in the sector. The view that competition in financial services is unambiguously good, however, is more naive than in other





industries and vigorous rivalry may not be the first best. Specific to the financial sector is the effect of excessive competition on financial stability, long recognized in theoretical and empirical research and, most importantly, in the actual conduct of (prudential) policy towards banks. There are other complications, however, as well. It has been shown, theoretically and empirically, that the degree of competition in the financial sector can matter (negatively or positively) for the access of firms and households to financial services, in turn affecting overall economic growth (Claessens 2009, p. 3).

Focusing on the U.S. financial sector, Crotty (2008) identified what he termed the "Volcker paradox" in assessing the role of competition in the U.S. financial sector from the 1980s onward. Crotty writes:

In 1997, former Federal Reserve Board Chairman Paul Volcker observed that the commercial banking industry was under more intense competitive pressure than at any time in living memory, 'yet at the same time the industry never has been so profitable.' I refer to the seemingly strange coexistence of intense competition and historically high profit rates in commercial banking as Volcker's Paradox (2008, p. 167).

It is evident that any analysis of competition in the U.S. financial system must take account of four crucial and interrelated developments that we have discussed in other sections of this study. These include:

 Deregulation. This has led to a lowering of entry, exit, and activity barriers within the U.S. financial system;

Sectoral restructuring. Tied to deregulation, this includes the consolidation of the traditional banking sector, with about 8,000 mergers occurring from 1980 to 1998. It also includes the rise of the domestic shadow banking system and the integration of U.S. financial firms within a globalized financial system

■ Information technology. The huge advances in this area have vastly increased the amount of information being processed and analyzed in the





financial system. It has also led to a range of product and process innovations, the most basic of which is the now ubiquitous ATM machine

Industrial technology. The proliferation of new financial instruments, in particular derivative financial instruments, has blurred the boundaries between segments of the financial sector, and thus affected the competitive landscape. For example, the growth of the derivative market has increased the direct competition between traditional insurance industry firms and shadow banks providing various sorts of derivatives.

In what follows, we attempt to identify the main issues underlying this complexity in the analysis of competition in the U.S. financial system.

#### How to Observe and Measure Competition in the Financial Sector?

According to a survey paper by Berger et al. (2004), as of the early 1990s, the basic approach to observing and measuring competition in the U.S. financial services industry was the standard structure-conduct-performance (SCP) framework developed within the industrial organization literature generally. Under this approach, one first examines the structure of the industry, e.g. the extent to which the banking industry is characterized by high concentration ratios in various geographic markets. The researcher then examines the extent to which concentration leads to market power ("conduct"), and then, in turn, whether market power generates higher prices and profits than would occur under more competitive conditions ("performance").

Berger et al. discuss problems with this approach, as well as more recent developments. For example, they describe alternative measures of competitiveness. Such alternative measures:

...allow for the possibility that different sizes and types of commercial banks may affect competitive conditions differently. The measures of conduct and performance that are analyzed have expanded to include indicators of the efficiency, service, quality, and risks of the banks, as well as the consequences for the economy as a whole. More dynamic analyses of bank





competition have been added, examining the effects over time of bank consolidation. Researchers have also broadened the focus from local U.S. banking markets to include other potential definitions of banking markets in the U.S and other nations around the globe (2004, pp. 434-35).

In short, over the past 20 years, researchers have recognized that financial firms can compete in different ways, according to their size and that the effects of size on market structure can evolve over time. They have also recognized that, under the rapidly evolving structure of the U.S. financial system—including the sharp increase in the consolidation of the commercial banking sector, as noted above and described in detail in Chapter 11 of this study—the geographic boundaries of the relevant markets are elastic. As such, empirical techniques for observing and measuring competition have been changing. But in such a dynamic environment, it is not surprising that what are understood to be the most appropriate measures for empirical research are matters of contention. In his 2009 survey paper, Claessens of the IMF concludes that "empirical evidence on competition in the financial sector has been scarce and to the extent available, often not (yet) clear," and that "empirical research on competition in the financial sector is...still at an early stage" (p. 3).

These difficulties have important implications for establishing appropriate policies governing competition in the financial sector. According to Claessens, "In all, this means that competition policy in the financial sector is quite complex and can be hard to analyze," (p. 3). Nevertheless, of course, analytic conclusions are reached in the literature, and policies are established. What is clear in considering these analytic conclusions and policies is that they are not grounded in a firm, well-established empirical foundation.

#### Relationship between Competition and Performance

The mainstream literature examines the impact of competition and performance according to three standard measures:





■ *Financial sector development.* This focuses on the role of competition in promoting the efficiency of financial services provision. For example, does competition promote lower costs to financial intermediation?

Access to financial services for households and firms. Does competition create greater access to financing, for firms and businesses of all sizes?

■ *Financial sector stability.* Does increased competition encourage more or less volatility, greater or fewer financial crises, and more or less high-risk behavior?

According to the literature, the effects of competition according to these criteria are ambiguous. For example, the literature generally finds that increased competition leads to lower costs and enhanced efficiency of financial intermediation and greater product innovation. These effects, in turn will generally lead to greater access to credit. However, Rajan (1992) argued that more intense competition may make financial firms less inclined to invest in relationship lending. Alternatively, relationship lending may tie borrowers too closely to an individual institution, weakening their ability to pursue other options when the one operative relationship is providing less satisfactory results.

Still more serious problems can also emerge when considering contradictory effects between the three categories. For example, when increased competition produces greater access to financial services, this same pattern can lead to a lowering of creditworthiness standards. The most obvious case in point here is with the sub-prime mortgage lending market in the U.S. In this case, the increased competition that led to increased access also led to more financial sector instability (Dell'Aricci et al 2008).

These contradictory effects of competition have important implications in assessing the impact of financial regulations on financial structure. By definition, a more highly regulated financial system is one that establishes more barriers to entry and exit within market segments. Thus, under the U.S. Glass-Steagall regulatory





system, commercial banks were prohibited from engaging in investment banking and home mortgage lending. They were also prohibited from operating across state lines. This therefore created major entry barriers within the commercial banking sector and between commercial banks and other areas of the financial services industry.

The breakdown of Glass-Steagall and the emergence of the shadow banking system first eroded, then eventually eliminated, these barriers to entry and exit, and as such, made the U.S. financial system more competitive. However, this breakdown of entry and exit barriers also weakened relationship- and geography-specific modes of interaction in U.S. financial markets. This produced large information gaps in market interactions, through which the increase in competition led to excessive risk-taking (Claessens 2009, p. 4).

Such ambiguities in the ways that competition affects financial stability are reflected in the mainstream empirical literature that examines this relationship in cross-country econometric models. For example, Beck et al. (2003) studied the relationships between bank concentration and other measures of competition with systematic banking crises using a large cross-country database for the 1980s and 1990s. They found that more competitive banking systems—as indicated by fewer entry and activity regulations—tend to be more stable. However they also found find that higher bank concentration is associated with more stability.

What could be driving these results is that higher levels of concentration do not necessarily imply less competition, as measured by entry, exit or activity barriers. But the result could also be reflecting the more general ambiguities as to the relationship between competition and stability. That is, under some circumstances, competition can promote stability by weeding out less efficient financial firms. But increased competition tied to reduced regulation can also promote instability under other circumstances, by creating opportunities for greater risk-taking and a decline in the quality of information on which firms' decisions are being made.





These ambiguous effects of competition on the operations of financial markets are explored powerfully in Crotty's analysis (2008) of what he terms Volcker's Paradox within the U.S. financial system. As noted at the outset, this paradox is the fact, observed by Volcker in 1997, that financial industry profits had been rising sharply at a time when, according to standard measures, competition had intensified.

We review the trends in U.S. financial sector profitability in Chapter 12 of this study. As we show there, financial profits show a strong upward trend beginning in the 1980s, up until the mid-2000s, i.e. during the peak of the financial bubble prior to the 2008-09 crisis. However, as we show below, financial profits do also exhibit sharp volatility over much of the period as well as the rising trend. The growth in financial profits is also not consistently greater than that for non-financial corporations. Crotty presents other indicators of financial sector profits, including the after-tax return on assets and equity for commercial banks, as well as the financial sector profits rise from less than 1 percent of GDP in the early 1980s to over 3 percent of GDP by 2004.

Considering Volcker's paradox within the broader historical trajectory of financialization within the U.S. economy, Crotty focuses on three interrelated explanations for the paradox. As he summarizes:

First, the demand for financial products and services has grown exponentially. Competition is least corrosive of profitability in periods of strong demand. Second, there has been a rapid rise in concentration in most wholesale and global financial markets, as well as in several important domestic retail markets. This has created an important precondition for what Schumpeter called 'corespective' competition – an industrial regime in which large firms compete in many ways, but avoid competitive actions such as price wars that significantly undercut industry profit. Thus, the presumption that competition has risen substantially is questionable. In addition, giant





commercial and investment banks create and trade ever more complex derivative products in ever-higher volume. They have been able to achieve high margins on much of this business by selling the bulk of their products over-the-counter (OTC) rather than on exchanges, thus insulating their profit margin from destructive competition. Third, there is substantial evidence that large financial institutions have raised profits the old fashioned way – by taking on very high risk (2008, p. 170).

Crotty also explores the interaction between these factors and the large-scale government interventions that have been critical factors defining the era of financialization. That is, the private U.S. mega-banks would not have been able to undertake high levels of risk if they did not understand that they would be rescued by government lender-of-last-resort bailout operations from the most severe consequences of their high-risk strategies. This government support for high-risk strategies, in turn, also encouraged the massive expansion of the OTC derivative markets. The expansion of these markets in turn led to what Crotty terms the "exponential" growth in the demand for financial products. As a result, it is reasonable to extrapolate from Crotty's analysis that the moral hazard conditions created by government lender-of-last result policies are critical to understanding Volcker's Paradox, and, more generally, the transformation of competition in the U.S. financial system in the era of financialization.

Tregenna (2009) conducted a more formal econometric analysis of the sources of high bank profitability between 19942005, i.e. until just prior to the peak of the U.S. financial bubble in 2007. She postulates two alternative approaches to explaining the high profitability: 1) The rise in banks' market power tied to increased industry concentration; and 2) Increased efficiency tied to industry consolidation. She then explores alternative specific explanations resulting from each of these two broad approaches. That is, the increase in market power could result primarily from high concentration itself, which then confers increased pricing power on all the surviving banks. Alternatively, she considers the possibility that the increased market power





accrues only to the largest banking institutions, not to the industry as a whole. Within the efficient market approach, she distinguishes between "X-efficiency"—i.e. gains in efficiency resulting from improved management or production technologies—and "scale efficiency," i.e. efficiencies resulting from operating at larger scale itself.

Tregenna pursues innovative econometric analyses of these alternative explanations. She utilizes quarterly bank-level data to conduct panel regressions, whereas previous researchers primarily relied on either cross-sectional or aggregated time series data. She also developed a new index of banking sector concentration. Her results find that the predominant explanation is the traditional SCP framework. That is, increased concentration provided the firms that survived the wave of consolidation with increased pricing power. Moreover, this increased pricing power was not isolated to only the largest surviving banks, but rather provided major benefits to the banking sector as a whole. Tregenna therefore concludes that the banking sector was extracting rents from the non-financial sector of the economy.

Tregenna's results do then support a more traditional SCP-type analysis of the impact of concentration on banking sector profits. But considered more broadly, they are also consistent with Crotty's analysis. The link between Tregenna and Crotty's respective perspectives is that, in both cases, the basic source of increased profitability is redistribution in favor of the financial sector relative to other sectors of the economy. Their perspectives can be combined to explain the fact, highlighted by Crotty, that financial sector profits tripled from the early 1980s to the mid-2000s as a share of U.S. GDP.

#### Conditions for Small-Scale Financial Institutions

The consolidation trend within the U.S. financial services industry does raise a final significant question. That is, moving forward, to what extent will it be possible for smaller-scale financial institutions to compete in the industry? This question is examined at length in a 2003 study by DeYoung et al. for the Federal Reserve Bank of





Chicago. They focus on what they term the "community banking" sector within the U.S. Though the study was completed five years prior to the onset of the financial crisis, the perspectives offered in the study remain valuable.

The study begins by defining what they mean by "community banks." They note that most analysts establish an upper size threshold—typically around \$1 billion in bank assets—and refer to all banks lying below that threshold as being "community banks." DeYoung et al. offer an alternative approach, relying more on qualitative measures, since, as they write "community banking is a complex phenomenon, and bank size is really just an instrument for identifying banks with a richer set of characteristics"(p. 2). According to their definition, "A community bank holds a commercial bank or thrift charter; operates physical offices only within a limited geographical area; offers a variety of loans and checkable insured deposit accounts; and has a local focus that precludes its equity shares from trading in well-developed capital markets" (p. 3).

Can such community banks compete in the current financial sector environment? DeYoung et al. generally conclude that they can, though not through operating in every market segment. Not surprisingly, they rather conclude that a viable community bank business model is one "that emphasizes personalized service and relationships based on soft information" (p. 40). This type of community bank can successfully compete in terms of services for retail consumers and small business customers. But even here, DeYoung et al. offer caveats. First, they question whether very small community banks—i.e. those with less than \$100 million in assets—are likely to be competitive under any circumstances. They also suggest that if large banks choose to compete within this same market, by operating a large number of branch operations in neighborhoods and providing significant soft services to retail consumers and small businesses, this could make the competitive terrain increasingly challenging for community banks. DeYoung et al. suggest that the community banks could retaliate, in turn, through achieving the benefits of scale without themselves getting large. That is, they could mimic large institutions by





providing, for example, loan securitization and brokerage services, through outsourcing these services, while still maintaining the strong customer relationships.

The findings by DeYoung et al. are supported by a more recent Federal Reservesponsored study by Gilbert, published in 2007. Gilbert concludes as follows:

The number of banks with assets less than \$100 million has been declining in recent years and median profit rates of these very small banks are lower than the profit rates of banks with assets between \$100 million and \$1 billion....The prospects are brighter for banks with assets between \$100 million and \$1 billion and \$1 billion. The number of banks in this size range has increased in recent years, and profit rates for these banks tend to be higher than the profit rates of the smaller banks (p. 14).

It would be illuminating to see the results of other such follow-up studies subsequent to the financial crisis and recession, but to our knowledge, no such studies as yet exist. In the post 2008-09 environment, perhaps the most important factor in terms of community bank competitiveness is whether large-scale financial institutions see adequate profit opportunities for themselves by being widely engaged in personalized banking activities. The answer to this question, in turn, depends on whether, post crisis, they continue to see the most favorable profit opportunities through securitization, trading and derivative markets—i.e. major activities associated with financialization that were the major sources of high profits prior to the financial crisis. As we have discussed in Chapters 10 and 16 of this study, by 2012.3, i.e. nearly 5 years since the onset of the crisis, commercial banks as a whole have not returned to lending on a large scale to non-corporate businesses. This suggests that the management of U.S. commercial banks remains focused on activities other than making loans to smaller businesses.

To the extent this is true, it should provide a market opening for community banks to pursue. But the size of this market opening is also likely to remain small





until the U.S. economy moves onto a healthy growth trajectory out of the Great Recession.





## Chapter 7. Culture and Norms of the U.S. Financial System

"The disposition to admire, and almost to worship, the rich and the powerful, and to despise, or, at least, to neglect persons of poor and mean condition, though necessary both to establish and to maintain the distinction of ranks and the order of society, is, at the same time, the great and most universal cause of the corruption of our moral sentiments."

#### --- Adam Smith, Theory of Moral Sentiments

"An infectious greed seemed to grip much of our business community....It is not that humans have become any more greedy than in generations past. It is that the avenues to express greed have grown so enormously."

---- Alan Greenspan, testimony before the U.S. Senate Banking Committee, July 16, 2002<sup>19</sup>

At least since Adam Smith, it has long been understood that self-seeking is the central organizing precept and dominant source of energy powering the operations of capitalist economies. Smith's single most widely cited passage in the *Wealth of Nations* could not be more emphatic on this point, i.e., ""It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own self-interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages."

However, Smith himself also emphasized that a market economy could not operate successfully on the basis of individuals pursuing self-interest alone. Smith also recognized that a market economy also requires counterweights to the drive for individual self-aggrandizement. Without such counterweights, the pursuit of selfinterest can easily degenerate into the "greed is good" ethos articulated famously by the 1980s corporate raider Ivan Boesky prior to his 3-year imprisonment for violating U.S. insider trading laws.

<sup>&</sup>lt;sup>19</sup> Greenspan testimony quoted in Partnoy (2009).





Smith identified two counterweights to the Boesky-esque "greed is good" ethos. The first is market competition. Through competition in the marketplace, any business that tried to overreach in the pursuit of self-aggrandizement—e.g. a baker trying to charge exorbitant prices for a loaf of bread—would be undercut by a competitor selling bread at cheaper prices.

However, Smith was also aware of the limitations of competition as a counterweight to self-seeking in markets. He held that if self-seeking and competition were the only two driving forces animating market economies, the societies in which such market activities were embedded would increasingly resemble the "war of all against all" described famously by Thomas Hobbes in *Leviathan.* Smith therefore insisted on the need for a market economy to be embedded within what we can today call a culture of solidarity, and what he himself called a system of "moral sentiments."

These basic ideas from Smith provide an excellent framework for addressing the issues of culture and norms within the contemporary U.S. financial markets. In assessing the culture and norms that prevail in contemporary Wall Street, there is no question as to the dominant role played by self-seeking. This is fully acknowledged by the strongest contemporary defenders of capitalism. For example, Milton and Rose Friedman write in *Free to Choose* as follows:

The key insight of Adam Smith's Wealth of Nations is misleadingly simple: if an exchange between two parties is voluntary, it will not take place unless both parties believe they will benefit from it....The price system is the mechanism that performs this task without central direction, without requiring people to speak to one another or to like one another....Adam Smith's flash of genius was his recognition that the prices that emerged from voluntary transactions between buyers and sellers—for short, in a free market—could coordinate the activity of millions of people, each seeking his own interests, in such a way as to make everybody better off. It was a startling idea then, and it remains one today, that economic order can emerge





as the unintended consequence of many people, each seeking his own interest (1980, pp 13-14).

The challenge is to establish the extent to which the two forces identified by Smith—i.e. competition and social solidarity—are operating effectively in their roles as counterweights to market-based self-seeking. With respect to competition, there is no question that the contemporary U.S. financial market is highly competitivewith the full range of institutions, firms, and individual actors in the market competing against one another to gain advantage and thereby expand their personal income and wealth. This does not mean that the nature of competition resembles the perfectly competitive model of orthodox economics. Rather, the dominance of huge, powerful banking conglomerates, that are in turn closely aligned with networks of unregulated hedge funds, private equity funds—i.e. the heart of the shadow banking system-certainly are competing more within a framework of oligopolistic competition. That is, these firms cooperate with each other at times, often through formal partnerships, but otherwise through less formal alliances, including through lobbying efforts that benefit the financial industry generally. At other times, they compete fiercely, over informational advantages, personnel, market shares, and product prices. Moreover, even within firms, there is strong competition among individuals for clients, promotions, bonuses and other forms of remuneration and recognition.<sup>20</sup>

The more basic question we need to ask is not whether competition exists, but rather whether the markets operate in such a way as to channel the pursuit of selfinterest to outcomes that are socially desirable. As we will see, in fact, these competitive forces, operating within a basically unregulated financial market environment, have rather, in large measure, encouraged a culture of dishonesty, a bias in favor of short-term over long-term investment horizons, and a propensity to produce financial market bubbles and, thereby, systemic instability.

<sup>&</sup>lt;sup>20</sup> The nature of competition in contemporary financial markets is the subject of Chapter 6 of this study. The work by Crotty (2008) described in this section is especially pertinent.





As for norms of social solidarity as a counterweight to self-seeking, we see that such forces have dramatically eroded as the era of financialization has proceeded. This is precisely the development to which Alan Greenspan himself refers in his observation on "infectious greed" with which we open this chapter. . Following the 2008-09 financial crash and recession, there have been efforts to strengthen these norms of social solidarity. In the realm of formal policy-making, as we discuss in Chapter 3, the most important such effort has been the passage of the Wall Street Reform and Consumer Protection Act in July 2010, known informally as the Dodd-Frank financial regulatory reform law. Dodd-Frank is the most ambitious measure aimed at regulating U.S. financial markets since the Glass-Steagall Act was implemented in the midst of the 1930s Depression. Beyond mainstream politics, the most dramatic political initiative aimed at Wall Street culture was the Occupy Wall Street movement. For several months, beginning in September 2011, Occupy Wall Street was a major news story in the U.S. and throughout the world. However, as we discuss later in this chapter, to date, these and related initiatives have not been strong enough to serve effectively as a counterweight to the ongoing hegemony of the self-seeking behavior and destabilizing competition as the driving forces shaping the culture and norms of the contemporary U.S. financial markets.

At the same time, this does not mean that all activities in financial markets are socially harmful, nor, by any stretch, that all individuals working in financial markets are dishonest. As Shiller (2012) argues at length, and as we discuss in more detail below, many aspects of contemporary financial market activity yield positive outcomes, such as supporting productive investments that would otherwise not be possible to undertake. As Shiller further emphasizes, even speculative financial markets can themselves, at times, support such positive outcomes.

#### The Historical Record on Unregulated Financial Markets

Throughout the history of capitalism, unregulated financial markets have always been dominated by the forces of self-seeking. These forces have pushed markets to create financial bubbles and subsequent financial crises. This long-term pattern





was documented by Charles Kindleberger in his classic study, *Manias, Panics and Crashes* (1978). For our present discussion, two sets of historical observations from Kindleberger are key. The first is his point on how financial bubbles get formed. As Kindleberger writes, "What happens, basically, is that some event changes the economic outlook. New opportunities for profits are seized, and overdone, in ways so closely resembling irrationality as to constitute a mania," (p. 5).

Kindleberger's second set of observations is how what appears as only "new opportunities for profit" become transformed into financial bubbles and subsequent financial crises. Here is how Kindleberger describes the creation of financial bubbles and subsequent crisis, under a predictable pattern of "swindles and defalcations:"

It happens that crashes and panics are often precipitated by the revelation of some misfeasance, malfeasance, or malversation (the corruption of officials) engendered during the mania. It seems clear from the historical record that swindles are a response to the greedy appetite for wealth stimulated by the boom. And as the monetary system gets stretched, institutions lose liquidity, and unsuccessful swindles are about to be revealed, the temptation becomes virtually irresistible to take the money and run (p. 10).

Kindleberger's study describes this long historical pattern over 2 ½ centuries, from 1720-1975. In reviewing this record, what emerges clearly is that what had been a persistent movement of recurring financial bubbles and crises were greatly attenuated after the 1930s Depression and World War II, through to the 1970s. As Kindleberger himself writes, "the recessions from 1945 to 1973 were few, far between, and exceptionally mild" (p. 3). The reason for this, of course, is that over the initial period after World War II, a strong system of financial regulations were established in the United States, built around the 1933 Banking Act, which is better known by its informal name, the Glass-Steagall Act.

#### Regulation and Deregulation of U.S. Financial Markets





Under Glass-Steagall, the banking industry was divided into two distinct segments, "commercial" and "investment" banking. Commercial banks were limited to the low-risk, relatively mundane tasks of accepting deposits, managing checking accounts and making business loans. Under Regulation Q, one provision of Glass-Steagall, banks were prohibited from paying interest on checking accounts. Regulation Q also set limits on interest payments for other bank deposits. Under another provision of Glass-Steagall, banks were limited geographically, permitted to establish operations in one state only. Commercial banks' activities were also closely monitored by the newly-formed Federal Deposit Insurance Corporation. FDIC provided government-sponsored deposit insurance for the banks in exchange for the banks accepting close scrutiny of their activities. Similar regulations were imposed on Savings & Loans in 1932, and continued to operate through the 1970s. In particular, under the old regulatory regime, mortgage loans in the U.S. could be issued only by Savings & Loans and related institutions. The government regulated the rates S&Ls could charge on mortgages, and the S&Ls were prohibited from holding highly speculative assets in their portfolios. Investment banks, by contrast, were free to invest their clients' money on Wall Street and other high-risk activities, but had to steer clear of the commercial banks.

The Bretton Woods system of regulations that had been created in the mid-1940s was complimentary to Glass Steagall at the international level, in particular establishing a fixed exchange rate regime for operating the global financial system. Exchange rates could change under the Bretton Woods regulatory arrangements, but only through deliberate policy deliberations among member countries of the International Monetary Fund. This had the effect of limiting further the domain for speculative financial activity. Other advanced capitalist economies also operated with tightly managed financial systems. States and private banks were highly integrated within what was termed "bank-based" financial systems. With bank-based national financial systems, government agencies coordinated the channeling of finance into productive investment activities in close coordination with financial





and non-financial firms. There were certainly significant differences in the way bank-based systems operated in, for example, France, Japan and pre-unification West Germany. However, in all cases, a central element in the national financial structure was that the domain for unregulated speculative activities was highly circumscribed.<sup>21</sup>

However, even during the New Deal period itself, the political forces represented by Wall Street were vehemently opposed to the Glass-Steagall system, and fought to repeal, or at least weaken, any restrictions on their activities imposed by Glass Steagall. Beginning in the 1970s, due in part at that point to the pressure on banks' profits resulting from high inflation, the banks became much more aggressive in circumventing the strictures imposed by Glass-Steagall. This pattern of circumvention, which ultimately created the conditions supporting outright repeal of the system, is portrayed vividly in Jeff Madrick's 2011 book, *The Age of Greed*. Madrick describes this process through the perspective of the careers of major Wall Street figures, including Walter Wriston and Sanford Weil.

Madrick describes how Wriston, as the CEO of what had been called First National City Corp, before becoming Citibank, then Citicorp, then finally Citigroup, was the first banking industry figure to aggressively circumvent the Glass Steagall regulations. This started with the creation of negotiable Certificates of Deposits (CDs) that, contrary to the Regulation Q prohibition on interest-bearing demand deposits, enabled banks to pay interest to customers on what were effectively checking accounts. This then led to the establishment of NOW accounts, a negotiated order of withdrawal, which was a savings account from which funds could be withdrawn immediately, thus also becoming the equivalent of an interest-bearing demand deposit.

Wriston also succeeded in circumventing the geographic limits on interstate banking established under Glass-Steagall. As Madrick writes:

<sup>&</sup>lt;sup>21</sup> Pollin (1995) describes the operations of 'bank-based' versus 'capital-market based' financial systems in the advanced economies.





Wriston pushed his Eurodollar financing aggressively, and made raising money for foreign companies and even nations a key profit center for the bank...The first such syndicated financing was for the Shah of Iran...Meanwhile, the bank holding company (an umbrella organization)...was able to buy a management consulting company in the United States, and banks in other parts of New York State. Some of these were folded into the bank itself, a subsidiary of the holding company. Wriston pushed hard into consumer banking, hoping to make profitable personal loans....Ideally, he wanted branches everywhere, but banking laws prohibited interstate branches.... (pp. 99 – 100).

In parallel activities, Wriston also challenged the limits set by the Bretton Woods fixed exchange rate system. According to Madrick:

His currency trading desk was also making substantial profits as well. Wriston had a part in convincing the administration, with the support of his friend George Schultz, then treasury secretary, to unfix the U.S. dollar. Like another of his friends, Milton Friedman, Wriston insisted that changing prices would not affect exchange of goods because widespread currency trading...would stabilize the price of the currency. The more buyers and sellers there were, the less volatility in price there would be, he argued." (p. 99-100).

Finally, as Madrick describes, Wriston continued to fight to eliminate restrictions that banks faced in offering a wide array of consumer services. The way he was able to accomplish this was to create alliances between financial brokerage houses, insurance companies and traditional banks, such as Citibank. When Ronald Reagan came into office in 1981, Wriston and his Wall Street allies were confident that the weakened antitrust departments of the Reagan administration would not challenge such mergers. Wriston's assessments here proved to be accurate.

The transition in leadership at Citibank/Citicorp from Walter Wriston to Sanford Weil provides a valuable perspective on the demise of Glass-Steagall and the





corresponding transformation of the cultural norms undergirding U.S. financial markets. Here again is Madrick describing this transition:

When Walter Wriston was building what became Citicorp from the 1960s to the 1980s, he could not have imagined that almost all the regulatory obstacles to his corporate ambition would one day be leveled, as they had been by the end of the 20<sup>th</sup> century. He could not have imagined that he could have a branch almost anywhere in America...Or that a commercial bank would someday be allowed to put its own or its customers' money into almost any kind of investment and borrow aggressively to do so. He could not have imagined that his institution could make loans to customers by systematically violating regulations and by hiding assets or liabilities off the balance sheets of the borrower or the lender....By the late 1990s, his eventual successor, Sanford Weill, finished the task that Wriston had begun....Because of Wriston's early efforts and the rise of a new deregulatory ideology under Reagan, Weill was able to do that, and in fact was fully confident he could. If there was a wall of regulation, he tore it down with far less opposition that Wriston encountered. Finance had endured. (p. 286).

Thus, by the mid-1990s, the groundwork had been laid for the repeal of Glass-Steagall. The bill that formalized the final repeal, Gramm-Leach-Biley, passed in 1999 with bipartisan support in the House of Representatives, but only along narrow party lines in the Republican-controlled Senate. Nevertheless, the elite news media outlets, including the *New York Times*, long recognized as the most influential bastion of mainstream left-of-center perspectives, strongly supported the repeal of Glass-Steagall.

Most important, however, was that then President Clinton, as well as his top economic advisors, including Treasury Secretary Lawrence Summers, all supported the repeal of Glass-Steagall. The position of the Clinton administration was summarized succinctly in the 2001 Economic Report of the President, the last installment of this annual publication put out under the Clinton administration. This





report concludes unequivocally that "Given the massive financial instability of the 1930s, narrowing the range of banks' activities was arguably important for that day and age. But those rules are not needed today."

The Clinton economic team published these comments only months before the collapse of the Dot.Com financial bubble that led to the 2001 financial crisis. Still more remarkable was that the same high-level Democratic Party economic policy advisors, starting with Summers himself, were the same group of people that Barack Obama appointed to lead the economy out of the 2007-09 financial crisis.<sup>22</sup>

### Deregulation, "Infectious Greed", and Systemic Instability

Operating within an increasingly unregulated financial market since the late 1970s, and more fully, after the repeal of Glass-Steagall in 1999, it is not surprising that the historical patterns that prevailed over 250 years and summarized by Kindleberger again emerged as dominant. This means first of all, that constraints on self-serving activities became weakened, allowing the Boesky "greed is good" credo to again flourish in U.S. financial markets. This is precisely the point behind Greenspan's observation on the spread of "infectious greed" in the U.S. subsequent to the Glass-Steagall repeal. As Greenspan notes, it is not that people have necessarily become more greedy as individuals in the past three decades relative to the prior post World War II decades, as the regulatory system was weakened over time, then repealed formally in 1998. It is rather that, through deregulation, opportunities to pursue greed in less restrained ways become available.

The demise of the Glass-Steagall regulatory system also strengthened the forces, as described by Kindleberger, that have historically encouraged financial bubbles, and, thereby, systemic instability. These sources of systemic instability have been described well by a range of authors, starting of course with Keynes and Hyman Minsky. Kindleberger is explicit in acknowledging that Minsky's analytic

<sup>&</sup>lt;sup>22</sup> Scheer (2010) documents well the extent to which President Obama relied on Summers himself, as well as others in his close circle, including Timothy Geithner, to shape economic policies in his administration. The title of Scheer's book is evocative, *The Great American Stickup: How Reagan Republicans and Clinton Democrats Enriched Wall Street while Mugging Main Street.* 





approach provided the framework for his own historical discussions. But in addition to these authors, there have also been useful, if more limited, contributions from authors incorporating insights from behavioral economics, such as Robert Shiller and Andre Schleifer, toward understanding the culture and norms dominating Wall Street in the current period.

Shiller, for example, emphasizes the role of investor psychology, independent of individual firm fundamentals, as a major determinant of financial asset prices. As Shiller wrote in an early study, stock prices "change in substantial measure because the investing public en masse capriciously changes its mind (1989, p. 1)". In his 2000 book *Irrational Exuberance* Shiller examines in further detail the social and psychological "anchors" that determine stock market prices beyond what might be explained by fundamentals. Shiller describes these anchors that affect the culture of financial markets as follows:

Solid psychological research does show that there are patterns of human behavior that suggest anchors for the market that would not be expected if markets worked entirely rationally. These patterns of human behavior are not the result of extreme human ignorance, but rather of the character of human intelligence, reflecting its limitations as well as its strengths. Investors are striving to do the right thing, but they have limited abilities and certain natural modes of behavior that decide their actions when an unambiguous prescription for action is lacking. (2000, p. 148).

Shiller describes two kinds of psychological anchors that affect financial market behavior, what he terms *quantitative* and *moral* anchors. He describes these as follows:

With quantitative anchors, people are weighing numbers against prices when they decide whether stocks (or other assets) are priced right. With moral anchors, people compare the intuitive or emotional strength of the argument for investing in the market against their wealth and their perceived need for money to spend now. (p. 148)





Crucially, Shiller argues that because these anchors are fragile by their nature, they are liable to unexpected and sometimes rapid reversals. In Shiller's view, this explains the fact that the stock market and other financial asset markets fluctuate to a degree well beyond what can be explained by fundamentals.

Related to Shiller's perspective are arguments about the centrality of asymmetric information in financial markets, and specifically the influence exerted by ill-informed "noise traders." For example, in Shleifer's (2000) presentation of what he terms the "behavioral finance" perspective, he models financial markets as containing two kinds of traders, fundamental traders and noise traders. But noise traders are not competed out of the market by the fundamental traders in this perspective. This is because arbitrage is risky, costly, and therefore limited. For example, when stock prices are inflated relative to fundamentals, arbitraurs who choose to sell short face potential losses from prices moving still higher under the influence of noise traders—that is, their short-selling will not necessarily drive prices down to fundamentals. Thus, the actions of noise traders are not merely ephemeral to market activity, but rather exert a sustained influence on price formation.

These perspectives from behavioral economics on the operations of financial markets then also lead us to a deeper point on the role of Keynesian uncertainly. That is, if markets are persistently and unpredictably moved away from fundamentals by noise traders, it no longer becomes logical for even well-informed traders and professionals to try to trade on the basis of fundamental information. It rather follows that professional traders should proceed as Keynes argued, to trade by trying to outguess market sentiment, moving ahead of the herd by "anticipating what average opinion thinks average opinion to be" (1936, p. 156). As one important measure of this, Lawrance Evans (2003) demonstrated how the 1990s U.S. stock market bubble was significantly influenced by the large growth in mutual fund trading activity. Evans' econometric findings show that the impact of these





professional traders influenced equity prices to a statistically significant extent, independently of the behavior of firms' revenue and profitability. As such, one might even argue that while "fundamentals" such as revenue, sales, and profitability certainly exist as valid performance standards for firms, they do not exist as the "fundamental" bases on which firms are valued—or even could be valued—in markets where the cultural norms are established by what average opinion thinks average opinion will be.

#### Short-Termism and Financial Engineering

The growing influence of unregulated financial market activities on business decisions pushes corporations increasingly to favor short-term financial engineering over long-run "patient investment" strategies. This became dramatically evident in the United States in the 1980s, with the emergence of the corporate takeover movement led by Michael Milkin, Ivan Boesky and others.

The overarching idea behind the takeover movement was that financial market engineers, such as Milkin or Boesky, could amass huge war chests of borrowed funds to enable them to purchase, or at least threaten to purchase, public corporations that the bidders believed were underperforming. But the definition of "underperforming" was open to wide interpretation. It could mean that the firm's management team was weak, but could not be removed internally, since the managers had themselves appointed the firm's board of directors. One major complaint against corporate managers was that they were carrying excessive cash i.e. "free cash flow," as characterized by Michael Jensen, the leading orthodox analyst and supporter of the 1980s takeover movement. Jensen argued that these funds should either be deployed to finance new capital expenditures or disbursed to shareholders. But Shleifer and Summers (1988) argued "underperformance" also included the idea that firms were operating with excessive labor costs and/or tax burdens, and that a new management team could break what Shleifer and Summers identified as implicit contracts with workers and communities, and thereby capture





the rents for the new shareholders by performing "breaches of trust." Shleifer and Summers write:

In a world without takeovers, shareholders hire or train trustworthy managers, who on their behalf enter into implicit contracts with the stakeholders. Subsequently, some or many of these contracts become a liability to shareholders, who cannot default on them without replacing the incumbent managers. Managers are hard to replace internally because to a large extent they control the board of directors, their own compensation scheme, and the proxy voting mechanism....Hostile takeovers are external means of removing managers who uphold stakeholder claims. Takeovers then allow shareholders to appropriate stakeholders' ex post rents in the implicit contracts. The gains are split between the shareholders of the acquired and the acquiring firms. (p. 42).

The huge profits that were generated by the 1980s takeover movement changed the U.S. corporate culture dramatically. This transformation is described by Madrick as follows:

For Wall Street, the profitability of takeovers increased as the number and size of deals grew. The Wall Street investment banksters??? and the new takeover "artists" ...accrued more capital to make higher bids as they engineered more deals. Because the largest and most respected companies were also increasingly willing to attempt hostile takeovers, almost every major industry was swept up in the new wave, and all but the nation's largest companies were vulnerable to an unsolicited offer. The mere threat of takeovers changed corporate values. Vulnerable companies were desperate to raise the value of their stock to make them less attractive and avoid a takeover, which usually required focusing on improving profits in the short term, often by cutting wages and jobs, just as if they had been taken over. Others bought entities they did not necessarily want or need in order to use up





their idle cash in the bank, which otherwise made them tempting targets for hostile acquirers. And often the best-run companies were takeover targets, not failing ones. Thus, American businesses did indeed become lean and mean—far too much so. It became a narrowly focused revolution and then gains, when made, were short-term. The takeover movement did not create an environment that was propitious for new ideas and more risk taking (p. 81).

A series of formal research studies on this period also points to the increasing dominance of short-term investment time horizons as a result of the takeover movement. For example, Poterba and Summers (1995) developed a survey of CEOs in the US, Japan and Europe focusing on the issue of corporate time horizons. The time frame is significant, since it is just prior to the period in which Japanese and European financial markets had themselves become dominated by the market norms of Wall Street. Poterba and Summers found that American CEOs believed that their time horizons were shorter than those for their counterparts in Europe and Japan. These managers claimed that their relatively short horizons derived to a significant extent from the financial market environment in which they operate, since they believe that US equity markets undervalue long-term investments. Were the firms valued more in accordance with the perceptions of managers, they held that their long-term investments would increase, on average, by perhaps as much as 20 per cent. The survey also found that for the US CEOs, the minimum expected rate of return that would induce them to commit to a new investment project—i.e. the 'hurdle rate'—was substantially higher than standard cost-of-capital analysis would suggest. On average, CEOs in the US reported that their hurdle rate was 12.2 per cent. This compares with an average real return over the past fifty years of less than 2 per cent on corporate bonds and around 7 per cent for equities.

In related work during this same time period Michael Porter (1992) reported that this difference in time frames and hurdle rates is associated with a striking difference in managerial goals: US managers in this era were ranking return on





investment and higher stock prices as their top two corporate objectives, whereas Japanese managers ranked improving existing products or introducing new ones, and increasing market share as their two highest priorities. Higher stock prices were ranked last by Japanese managers among the eight objectives included in the study.

In more recent research, Lazonick (2013) shows how the concept of "maximizing shareholder value" derived from Jensen's work in the 1980s has inhibited productive investments and innovations but has encouraging financial engineering. One major case in point is the expanding use of stock buybacks as a way for corporate CEOs to boost their firm's share price in the short-term. This in turn enables the CEOs themselves to increase their personal compensation, which is significantly tied to the firm's stock price performance. As Lazonick writes:

Why do corporations repurchase stock? Executives often claim that buybacks are financial investments that signal confidence in the future of the company and its stock price performance (Louis and White 2007; Vermaelen 2005, ch. 3). In fact, however, companies that do buybacks never sell the shares at higher prices to cash in on these investments. To do so would be to signal to the market that its stock price had peaked. According to the "signaling" argument, we should have seen massive sales of corporate stock in the speculative boom of the late 1990s, as was in fact the case of US industrial corporations in the speculative boom of the late 1920s when corporations took advantage of the speculative stock market to pay off corporate debt or bolster their corporate treasuries (O'Sullivan 2004). Instead, in the boom of the late 1990s corporate executives as personal investors sold their own stock to reap speculative gains (often to the tune of tens of millions). Yet, if anything, these same corporate executives as corporate decisionmakers used corporate funds to repurchase their companies' shares in the attempt to bolster their stock prices – to their own personal gain. Those gains have been enormous. According to AFL-CIO Executive Paywatch, the ratio of the average pay of





CEOs of 200 large US corporations to the pay of the average full-time US worker was 42:1 in 1980, 107:1 in 1990, 525:1 in 2000, and 319:1 in 2008. (2013, pp. 498-99)

#### **Competition and Social Solidarity as Counterpressures?**

*Competition.* As noted at the outset, there is no disputing that the contemporary financial markets are intensely competitive. During the 1980s takeover movement period, Ivan Boesky, for example, was certainly competing with other takeover specialists, as well as with more traditional bankers, such as Walter Wriston and Sandford Weil, even while at various points, they may also have been collaborators. Still more recently, Goldman Sachs certainly competes against JP Morgan and Bank of America, and various hedge fund managers compete with one another over clients, valuable information, and market shares. However, the weakly regulated financial markets sets the terms for these competitive dynamics. Within this framework, strong competition does not channel the financial markets away from excessive self-seeking and short-termism. To the contrary, short-term considerations predominate. This in turn promotes excessive speculative trading, financial bubbles, and systemic instability. In short, competition in the contemporary U.S. financial markets does not serve to dampen the effects of self-serving in the workings of the financial market culture, but rather to amplify these effects.

Social Solidarity through Financial Regulation. In practical terms, the counterforce of social solidarity is made operational through the establishment of effective financial regulations that promote the channeling of the economy's enormous financial resources into productive, job-generating investments. But as we have seen, the system of financial regulations has been dismantled over time. There is some prospect for the new Dodd-Frank system to offer a framework for effective financial regulations. But the project of implementing the main features of Dodd-Frank is an uphill battle, with Wall Street lawyers and lobbyists continually working to undermine these provisions, just as they had been committed to undermining, then dismantling, Glass-Steagall.





We discuss in detail the battles over implementation of Dodd-Frank in Chapter 3, on regulation. For the present discussion, it will be useful to consider for illustration one important case in point. This is the feature of Dodd-Frank pertaining to the regulation of so-called "position limits" in commodities futures markets. Dodd-Frank required the Commodities Futures Trading Commission (CFTC) to establish limits on contracts for physical commodities. The purpose of position limits is to prevent large speculative traders from exercising excessive market power. That is, large traders can control the supply side of derivative markets by taking major positions, either on the short or long side of the markets. Once they control supply, they can then also exert power in setting spot market prices.

Establishing regulatory control over position limits, and on speculation more generally in commodities futures markets, is by no means a narrow technical issue, but rather carries broad political, and even cultural and ethical implications. This is because the commodities futures markets have become major new venues for financial speculation due to financial deregulation, and these speculative activities have, in turn, produced serious volatility in the global prices of both food and oil. The most severely impacted victims of commodity price volatility are people in developing countries, where it is common for families to spend 50 percent or more of their total income on food. The United Nations found that sharp price increases in 2008—a 40 percent average increase across a range of different food items—led to malnourishment for 130 million additional people.<sup>23</sup>

The regulations on position limits were one key feature of Dodd-Frank that offered the opportunity for meaningful control of commodities futures markets. However, in September 2012, a federal judge vacated the rule, sending it back to the CFTC for "further proceedings" before settling on the details how to regulate position limits. *The New York Times* reported on this development as follows:

The ruling is sure to embolden Wall Street as it shifts the attack on Dodd-Frank from piecemeal lobbying to broader legal challenges. Industry groups

<sup>&</sup>lt;sup>23</sup> This figure was cited by Sheeran (2008), Executive Director of the UN World Food Programme.





are currently challenging another futures commission rule, while others are weighing lawsuits against the so-called Volcker Rule, a still-uncompleted plan to stop banks from trading with their own money. The Commodity Futures Trading Commission, fearful of legal challenges, delayed its position limits rule on multiple occasions. It also tamed parts of the plan to accommodate concerns from traders. But the concessions failed to placate Wall Street. The two trade groups point to the fine print of Dodd-Frank, saying the law leaves it to regulators to enforce position limits only "as appropriate." The groups argue that the law, in essence, required regulators to determine whether limits are necessary and appropriate before creating them (Protess, 2012).

The point here is that the capacity of social solidarity to counterbalance the culture of self-seeking in U.S. financial markets can become effective only if there exists enough political will to establish a viable new system of financial regulations. The experience with implementing Dodd-Frank has to raise serious questions as to whether viable financial regulations can be implemented, as opposed to getting passed into law but drained of force thereafter by Wall Street lobbying.

#### Finance as a Force for Good

As mentioned above, Shiller (2012) argues, in a full-length monograph on the culture and norms governing financial markets, that while it is critical to understand the negative forces operating within contemporary financial markets, it is equally important to recognize the positive contributions being made by financial market activity. It will be useful to give some attention here to Shiller's perspectives on the culture and norms governing financial markets, given that he has developed his perspective in detail, but especially because he is widely recognized and influential as a strong critic of the efficient market analytic framework.

Shiller's observations connect back to the perspectives cited earlier by Milton Friedman and Adam Smith on how market activities in general will take place only if all parties to such activities see benefits themselves. Focusing on financial markets





specifically, Shiller argues that achieving such benefits entails high levels of cooperation among professionals and between these professionals and their clients. Shiller writes:

An essential part of what finance professionals actually do is dealmaking—the structuring of projects, enterprises, and systems, large and small—an activity that brings convergence to individuals' often divergent goals. Financial arrangements-including the structuring of payments, loans, collateral, shares, incentive options, and exit strategies—are just the surface elements of these deals. Dealmaking means facilitating arrangements that will motivate real actions by real people—and often by very large groups of people Most of us can achieve little of lasting value without the cooperation of others....All parties to an agreement have to want to embrace the goal, to do the work, and accept the risks; they also have to believe that others involved in the deal will actually work productively toward the common goal and do all the things that the best information suggests should be done. Finance provides the incentive structure necessary to tailor these activities and secure these goals. In addition, finance involves discovery of the world and its opportunities, which is tied to information technology. Whenever there is trading, there is price discovery-that is, the opportunity to learn the market value of whatever is being traded (2012, p. 8).

Shiller proceeds to examine the roles played in financial markets by, among others, corporate CEOs, investment managers, insurers, derivative providers, accountants, educators, lawyers, speculative trades, and lobbyists. In each case, Shiller points out both the positive and negative aspects of how these financial professionals contribute to the culture and norms of financial markets. For example, he recognizes the arguments made by proponents of the efficient markets analytic framework, that speculators can help move prices to their fundamental values, even while they can also contribute to speculative excesses. Regarding even lobbyists, Shiller states that "presenting a case for an interest group is not in itself





unethical, just as it is not unethical for a lawyer to represent a client in a criminal case, even if that person might be guilty," (2012, p. 91).

Shiller does recognize the need for greatly improving the operations of contemporary financial markets. He believes that effective financial regulations are important for this purpose. But Shiller gives much more weight here to what he terms the "democratization of finance"—i.e. the democratization of the internal operations of financial markets as opposed to having "democratization" result through the imposition of exogenous regulations. As he writes:

The democratization of finance entails relying more on effective institutions of risk management that have the effect of preventing random redistributions of power and wealth....The democratization of finance as spelled out in this book calls for an improvement in the nature and extent of participation in the financial system, including awareness of fundamental information about the workings of the system. The public needs to have reliable information, and that can only be provided by advisors, legal representatives and educators who see their role as one of promoting enlightened stewardship (2012, p. 235).

Shiller does not offer detailed arguments either way as to whether the forces of enlightened stewardship appear to have gained or lost ground in financial markets over the past generation. He rather closes his book by emphasizing that that these commitments and norms need to become stronger over time.

#### Wall Street Dominance and Rising Inequality

The dominance of Wall Street that we have described above has created opportunities for gigantic gains for those who are most successful in financial markets. This in turn has been a major contributing factor to widely recognized increases in inequality. Thus, by the end of World War II, in 1946, the highest-income families—the top 1 percent—obtained 13 percent of all pretax income and the top 10 percent obtained 37 percent. By the mid-1970s, the share of the top 10 percent had fallen to 33 percent of total pretax income. However, beginning in the early 1980s, with the election of Ronald Reagan as President, this trend toward increasing





income equality reversed itself. By 2007, just as the economic crisis was emerging, the top 1 percent's share of total pretax income had risen to 24 percent—two-and-a-half times its share in 1970. The top 10 percent received 50 percent of all income, seventeen percentage points more than in 1970. The rising inequality pattern returned emphatically in the immediate aftermath of the 2008-09 Wall Street collapse, with the top 1 percent of households receiving fully 93 percent of all pretax household income gains between 2009-10.<sup>24</sup>

Moreover, despite the fact that the U.S. tax system is nominally progressive in design, in fact, due to a range of tax preferences, the wealthiest households' income rose still more sharply after accounting for all taxes and transfers. The Economic Policy Institute estimated that lower taxes and larger government transfers to the top 1 percent of households increased their after-tax income by an additional 8 percent between 1979-2007. This rise in income inequality, pre- and after-tax, had become so severe by 2011 that it prompted a call by Warren Buffet, the longtime CEO of Berkshire Hathaway, and one of the world's 2-3 wealthiest individuals, to raise taxes on the rich. Buffett wrote in a *New York Times* opinion article:

Our leaders have asked for "shared sacrifice." But when they did the asking, they spared me. I checked with my mega-rich friends to learn what pain they were expecting. They, too, were left untouched. While the poor and middle class fight for us in Afghanistan, and while most Americans struggle to make ends meet, we mega-rich continue to get our extraordinary tax breaks. Some of us are investment managers who earn billions from our daily labors but are allowed to classify our income as "carried interest," thereby getting a bargain 15 percent tax rate. Others own stock index futures for 10 minutes and have 60 percent of their gain taxed at 15 percent, as if they'd been long-term

<sup>&</sup>lt;sup>24</sup> The long-term patterns on U.S. household inequality are surveyed well in MacEwan and Miller (2011), Chapter 3. The 2009-10 figures are from Saez (2012), http://elsa.berkeley.edu/~saez/saez-UStopincomes-2010.pdf




investors. These and other blessings are showered upon us by legislators in Washington who feel compelled to protect us, much as if we were spotted owls or some other endangered species. It's nice to have friends in high places (*NY Times*, 8/14/11).

Overall then, it is clear how a vicious cycle of rising inequality and financial instability has emerged out of the contemporary culture dominating U.S. financial markets. That is, a weakly regulated financial market has led to outsized rewards for the wealthy, which are then reinforced through the tax system and the lack of significant regulations themselves. The rise in inequality then strengthens the political influence of the wealthy, which weakens still further the capacity of the political system to establish effective financial regulations. The result is that the forces of self-seeking become stronger in the Wall Street political culture, spreading "infectious greed" more widely. This in turn biases the financial system toward the logic of short-term speculative trading and financial engineering. As Kindeberger has documented over the full history of Western capitalism, such patterns have always pushed capitalist financial systems in the direction of systemic instability.





# Chapter 8. Financial Innovation and the Rise in Complexity of Financial Instruments

Financial innovation refers to the creation and marketing of new types of financial instruments, financial products, and securities. There are many drivers of financial innovation and diverse theoretical explanations for why financial innovation takes place. One common claim is that financial innovation is a response to incomplete markets and therefore improves the overall efficiency of financial markets. For example, innovative securities may create new opportunities for risk management which did not exist before (Dodd, 2004). However, the circumvention of financial regulations is also cited as a common motivation for innovation (Broadhus, 1985). Regulations typically apply only to currently existing financial instruments and new instruments and securities are often de facto unregulated - at least until regulations are updated to keep pace with these developments. In addition, advances in information technology have facilitated financial innovation, by increasing the speed and scope with which information can be processed and financial exchanges completed.

Many innovations in the U.S. banking sector which emerged prior to the 1980s were aimed at getting around the existing regulatory framework within a changing macroeconomic environment. For instance, the introduction of certificates of deposit (CDs) as an alternative to standard demand deposits in the 1960s represented an effort to avoid interest rate regulations on typical deposit accounts. Similarly, the emergence of the Eurodollar market, beginning in the 1950s, allowed banks to borrow dollars from offshore sources which were not subject to U.S. restrictions. Financial institutions were created which mimicked certain services of commercial banks, but were not banks and therefore not regulated as banks. For example, money market mutual funds allowed investors to hold shares, instead of deposits, and paid a return based on investments in short-term credit instruments. Money market funds were introduced in the 1970s and grew rapidly during the period of

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financialization. Figure 8.1 traces the growth in total assets of money market funds over recent decades.<sup>25</sup>

# Figure 8.1



The macroeconomic situation in the 1970s and the early 1980s provided an additional impetus to sidestep regulations by developing innovative financial products. The 1970s were a period of high inflation and high nominal interest rates. The subsequent contractionary monetary policy used to curb inflation led to historically high real and nominal interest rates. In this environment, regulations which imposed interest rates ceilings were seen by the banking sector to be particularly onerous and one response was to develop new financial instruments

<sup>&</sup>lt;sup>25</sup> See Chapter 7 of this study on "Culture and Norms of the Financial System," for historical perspective on the rise of financial innovation in the U.S. beginning in the 1970s.





which would not be subject to the existing regulations. Regulatory reforms followed in the 1980s which removed interest rate controls.<sup>26</sup>

Financial innovations are not limited to the banking sector and are perhaps most often associated with the creation and introduction of new securities, including a wide range of derivatives. Derivatives are financial products, involving a contract between two parties, whose value depends on another security or asset. The most common derivatives include forwards, futures, options, and swaps. Since derivatives can be created based on any asset or security, including other derivatives, there is enormous scope for generating new financial products. Derivatives, particularly forward and futures contracts, have a very long history, dating back hundreds of years (Dodd, 2004). In the U.S., the volume of securities and derivatives issued and traded expanded dramatically since the 1980s - i.e. during the period of financialization.

Before examining the trends in the growth of derivatives, it may be useful to define the major categories of derivatives. Forward contracts are agreements to buy or sell something (commodities, assets, securities, etc.) at a later date for a specified price. Futures are similar to forwards, but futures contracts are standardized with regard to the quantity traded. Options give the purchaser the choice of whether to buy or sell at a specified price and date, and the buyer of the option pays a premium for this flexibility. Swaps involve exchanging the cash flows of different securities between two parties. In some cases, swaps effectively involve the exchange of prices, such as interest rates or exchange rates, linked to specific cash flows. The value of the underlying security, known as the notional amount, is not traded in the case of swaps.

Derivatives can be traded on formal exchanges or in over-the-counter (OTC) transactions. OTC transactions refer to bilateral exchanges between two parties. In recent decades, most of the derivatives traded on formal exchanges within the U.S. markets were futures and options contracts, while swaps were traded over-the-

<sup>&</sup>lt;sup>26</sup> See Chapter 3 of this study, on the evolving U.S. regulatory system.





counter. Because of the nature of the market, OTC transactions have been virtually unregulated. The U.S. Commodity Futures Modernization Act of 2000 formalized this situation by stipulating that OTC derivatives transactions would not be subject to regulation under the Commodity Exchange Act of 1936. However, the current Dodd-Frank financial regulatory framework includes a provision that swap agreements, which were previously exchanged over-the-counter, would eventually have to be traded on exchanges or clearing houses.

## Figure 8.2



Figure 8.2 shows the growth of the global OTC derivative market from 1998 to 2011. The chart shows a dramatic expansion of the total value of OTC derivatives, particularly after 2001. Interest rate derivatives, the largest share of which is comprised of interest rate swaps, account for the largest share of the global derivatives market. Credit default swaps, although a small share of total notional value, emerge as a major category of derivatives in the years immediately prior to





the economic crisis. The category "other derivatives" includes equity-based and commodity-based derivatives. Figure 8.3 shows trends in certain categories of exchange traded derivatives from 1986 to 2011 in global and North American markets. The exchange traded derivatives represented in Figure 8.3 include both futures and options for currency, interest rate, and equity index contracts, but does not include futures and options contracts for other commodities. Both markets show similar patterns over time, with the North American market accounting for approximately 50 percent of the global market in 2011. As with the OTC market, exchange traded derivatives have exhibited rapid growth leading up to the global financial crisis.

## Figure 8.3







# Figure 8.4



The expansion of trading volume and activity in exchange traded derivatives is also reflected in shifts occurring in commodity futures markets over the past decade, a process sometimes referred to as the 'financialization of commodities'. The rapid increase in trading activity among financial investors after 2001 has been linked to rises in food and energy prices prior to the financial crisis (UNCTAD, 2009, 2011). Over the past decade, investors moved into commodity futures markets and began to hold diversified portfolios of contracts. The increase in financial investments in these markets was reflected in a rapid rise in the trading activity, as indicated by a growing level of open interest (i.e. the number of outstanding futures contracts at a particular point in time). For example, Figure 8.4 shows recent trends in the open interest of crude oil futures traded on the New York Mercantile Exchange. The growth in open interest is closely correlated with the rise in oil prices during this period. One theory linking increased trading activity to rising spot market





prices of crude oil is that investors tended to adopt long positions in commodity futures, the returns to which rise with actual future spot prices. According to this line of reasoning, the entry of large-scale investors into commodity futures raised futures prices and these price increases were transmitted to spot prices, contributing to the commodity bubble. Diversified portfolios of long positions in commodity futures had been shown to produce returns roughly equivalent to those of the S&P 500, but negatively correlated with share prices (Gorton and Rouwenhorst, 2006; Erb and Harvey, 2006). Investments in commodity futures, if sufficiently diversified, could therefore provide a hedge against adverse movements in equity markets. If we examine broad trends in financial investment from the 1990s to 2008, we find that investors moved from one asset class to the next. The 1990s was the decade for equities, with the so-called "dot com" bubble. With the 2001 recession, investors began to diversify, moving into real estate and mortgage-back securities. Finally, in the mid-2000s, the movement into commodity futures began in earnest. Tang and Xiong (2011) show that extent of correlation between returns on commodities and those on equities increased during this period, a development which underscores the interconnections between these markets. It is these trends and relationships which have defined the financialization of commodity markets in the U.S. context.

Securitization represents another type of financial innovation which expanded rapidly in the U.S. over the past several decades. Securitization involves the pooling of debt and then selling that debt as bonds or other financial products. Investors are paid a return on the securitized assets they purchase from the cash flows generated by interest payments and the repayment of the principle of the underlying loans. Mortgages represent one category of debt that has been subject to widespread securitization. When the financial products created through the process of securitization are backed by the cash flow generated by mortgages, they are called mortgage-backed securities (MBS). Securities backed by the expected cash flow derived from any type of underlying asset are called asset-backed securities (ABS). A





number of financial innovations are closely related to ABSs. For instance, collateralized debt obligations (CDOs) are securities that are created by dividing the cash flow generated by pooled (securitized) debt into various "tranches" which offer different returns based on different assessments of risks. Although the individual tranches are supposed to be associated with different levels of risk, the overall risk of the pooled debt is not changed by the creation of CDOs (Pozsar, 2008).



# Figure 8.5

The practice of securitization grew rapidly, beginning in the 1970s (Cowan, 2003; Pozsar, 2008). Figure 8.5 traces the growth in the value of asset-backed securities, including mortgage-backed securities. The rate of expansion is particularly pronounced in the 1990s and from 2001 to 2007. With the unfolding of the financial crisis in 2008, the total asset value of MBSs and ABSs declined markedly. In the





decade before the financial collapse in 2008 (i.e. from 1998 to 2007) MBSs accounted for about half of all ABSs. During the crisis years, the value of ABSs fell more rapidly than MBSs, and, in 2011, MBSs accounted for nearly 85 percent of the value of all asset backed securities.

The creation of a "shadow banking system" in the U.S. is linked to the process of securitization, the expansion of asset-backed securities, including CDOs, and the emergence of new non-bank institutions, such as money market funds (Pozsar, et al., 2012). The shadow banking system refers to all non-bank intermediaries that provide financial services that parallel the services provided by traditional commercial banks and depository institutions. Examples of shadow-banking institutions include structured investment vehicles (highly leveraged investment funds which finance the purchase of long-term securities that pay higher returns by issuing short-term securities), hedge funds which extend credit, and money market mutual funds. Typically, shadow banking institutions would borrow short and lend long, mimicking the type of maturity transformation performed by traditional depository institutions (Pozsar, 2008). However, unlike traditional banks, intermediation through the shadow banking system usually involves several different entities and various off-balance sheet asset management techniques. According to Pozsar et al. (2012), the emergence of shadow banking has changed the nature of banking from "a credit-risk intensive, deposit-funded, spread-based process to a less-credit-risk intensive, but more market-risk intensive, wholesale funded, feebased process." (p. 15).

Although shadow banking performs a similar intermediation function as the traditional banking system, it is not subject to the same regulations and protections. The U.S. shadow banking system does not have the same access to liquidity from the Federal Reserve and does not enjoy guarantees provided by federal agencies, such as the Federal Deposit Insurance Corporation (Pozsar et al., 2012). Since shadow banks typically finance longer-term investments through short-term liabilities, they are exposed to risks arising from maturity mismatch, but without the safeguards

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available to standard depository institutions. The shadow banking system played a central role in the unfolding of the U.S. financial crisis, which began in 2007 but became much more intense in 2008 - an issue that we return to later in this section.

There are on-going debates about the impact such innovations have on the financial sector and the economy as a whole. One set of arguments see financial innovation as efficiency-enhancing, making markets more complete, mitigating market failures, and allowing the financial system to function more effectively. For example, new derivatives may generate tools for risk management which did not exist before, facilitate maturity transformation, lower the cost of borrowing, and improve access to liquidity (Bartram, Brown, and Fehle, 2009; Johnson, 1998; Dodd, 2004).

In contrast, others argue that financial innovations actually contribute to risk and uncertainty, potentially destabilizing financial markets and introducing new market failures. Derivatives may lower the price of risk, but this can have the unintended consequence of strengthening incentives for financial investors to engage in riskier behavior (Dodd, 2004). Given the structure of many derivatives, prices of innovative financial products may become highly correlated in times of economic strain, producing conditions of heightened systemic risk (Pozsar et al., 2012). Investors are frequently forced to sell off assets in order to generate needed liquidity, introducing a feedback loop in which pressure on asset prices triggers asset liquidation which then intensifies price pressures. Moreover, financial innovations do not escape problems of market failure. For example, the U.S. sub-prime mortgage crisis was plagued by principal-agent and information problems: between the borrower and the institutions arranging the mortgages, between the arrangers of the mortgages and the investors engaged in the securitization process, and between ratings agencies and institutions purchasing MBSs and related derivatives (Ashcraft and Schuermann, 2008). Instead of making markets work better, financial innovation may introduce new market failures while operating without the safeguards put in place by the U.S. regulatory framework.





It is hard to escape the fact that innovative financial products and the shadow banking system played a central role in the unfolding of the U.S. financial crisis in 2007-8 (Greenberger 2013). Between 2001 and 2006, there was a dramatic expansion of mortgage lending in the U.S., including a very rapid increase in subprime mortgages (Ashcraft and Schuermann, 2008). These mortgages were securitized and were the foundation used to create a variety of derivative products, including MBSs and CDOs. The issuance of these asset-backed securities effectively funded longer-term mortgage lending through the shadow banking system, including conduits and structured investment vehicles (SIVs).

Shifts in economic conditions led to significant increases in the rate of default on subprime mortgages which, in turn, affected the value of MBSs and related derivatives. Investment firms with high levels of exposure to asset-backed securities linked to the subprime market faced huge losses and these dynamics were the proximate cause of the bankruptcy of the U.S. investment bank, Lehman Brothers, in September of 2008 - the largest bankruptcy filing in U.S. history. Other financial institutions, such as the insurer American International Group, had sold credit default swaps (CDSs) - effectively, insurance policies that paid out in the case of third-party default on debts. The liabilities of the issuers of CDSs skyrocketed as the financial crisis unfolded. There was a rush to liquidity in the face of the subprime crisis, as investors needed resources to meet margin calls, which placed further pressure on the prices of financial assets, worsening the crisis situation.

Exposure to mortgage-backed securities was particularly widespread because many of the securities had received the best possible risk assessment, triple-A, from the credit ratings agencies. Excluding government and municipal bonds, ratings of asset-backed securities account for 56 percent of all credit ratings of the 10 Nationally Recognized Statistical Rating Organizations, or NRSROs (SEC, 2008). Since asset-back securities represented a core part of the ratings business, strong incentives exist to maintain market share by providing favorable ratings. Moreover, many institutional investors are prohibited from investing in securities with less than





a triple-A rating. The issuers of CDOs worked with the agencies to structure the liabilities and the distribution of payments from the underlying mortgages to secure the ratings necessary to float the securities (Crouchy, Jarrow, and Turnbull, 2008). Since the issuers knew the methodology the ratings agencies used to assess risk, they could structure the various tranches in such a way as to get the desired ratings. An estimated 80 percent of CDO tranches were rated triple-A, many ultimately backed by high risk subprime mortgages (Crotty, 2008).

These favorable risk assessments also contributed to European exposure to the U.S. subprime mortgage market. In the years preceding the financial crisis, international investors tended to perceive U.S. financial assets as relatively low-risk. The safe assets included mortgage-back securities, with favorable credit-ratings, in addition to traditional low-risk investments, such as U.S. treasuries. In particular, European investors made substantial purchases of U.S. MBSs, financing these foreign investments by increasing the amount of leverage in European balance sheets relative to the rest of the world (Bernanke et al., 2011). This exposure to U.S. financial markets through leveraged investments in asset-backed securities provided a channel through which U.S. financial fragility could be transmitted to European institutions.

The shadow banking system did not have access to federal guarantees or to the Federal Reserve's liquidity window. Because of the liquidity crunch, private sources of cash, e.g. on money markets, were largely unavailable. For these reasons, the policy response was unorthodox. Emergency fiscal resources were initially made available through the Troubled Asset Relief Program (TARP) in 2008 to bail out financial institutions. However, the response of the Federal Reserve was much larger and more significant. Emergency lending facilities were created specifically to lend to components of the shadow banking system in order to provide a backstop for asset-based securities and other toxic assets; the emergency lending facilities included the Commercial Paper Funding Facility, the Term Asset-Backed Loan Facility, and the Term Securities Lending Facility, among others (Pozsar et al., 2012).





Because the shadow banks are not subject to the same degree of regulatory scrutiny as the more traditional financial institutions, the fact that the Federal Reserve nevertheless created these lender-of-last-resort facilities for them is a measure of the growing importance of the shadow banking system. The fact that the Federal Reserve provides such extensive lender-of-last-resort support to the shadow banks even though the shadow banks are only lightly regulated is also a measure of the ongoing difficulties being faced in trying to rebuild a well-functioning U.S. financial regulatory system.





# Chapter 9. Changing Patterns in Availability and Sources of Funds Theoretical Perspectives

The orthodox framework for analyzing the sources of credit supply begins with the premise that financial institutions transmit credit from ultimate saving units mostly households—to ultimate borrowing units, including businesses as well as other households and governments. Within this framework, the system of financial intermediation is seen as playing a largely passive role in transmitting an economy's aggregate saving supply from net surplus units (i.e. lenders) to net deficit units (borrowers). As such, the economy's credit supply, as well as the level of aggregate activity more generally, could be seen in this framework as being *saving constrained*.

During the 1980s, one of the primary issues of concern within this orthodox framework was whether economies operated with a saving constraint set by domestic saving rates, or whether international capital mobility relaxed what would otherwise have been a hard domestic saving constraint. A key research contribution within this orthodox literature was Feldstein and Horioka (1980), which examined the relationship between domestic saving and investment rates for 21 OECD countries between 1960 and 1974. They found that despite increasing levels of global capital mobility, domestic saving rates did indeed operate as a constraint on domestic investment.

The Feldstein-Horioka paper generated a large literature, much of it critical of its findings. Among other factors, as Blecker (1996) pointed out, Feldstein/Horioka failed to observe in their own econometric results that the tight observed relationship between domestic saving was most closely associated with the co-movements of corporate saving and investment rates. As Blecker wrote, a reasonable interpretation of this finding was that business investment rates were closely tied to corporate profit rates, and that this close link was the main factor driving the Feldstein-Horioka result.

A second type of criticism of the Feldstein-Horioka paper works from the traditional Keynesian perspective, which argues that the overall level of activity in





capitalist economies, in particular those operating at less than full employment, are investment-led as opposed to being saving-constrained. Within this perspective, saving rates rise along with income levels as a result of an autonomous increase in investment that is then accompanied by a multiplier-accelerator dynamic. That is, an increase in investment generates increase in employment, output, and income, which in turn yields corresponding increase in saving. Gordon (1996) provides a strong presentation of this perspective, with a particular focus on critiquing the econometric modeling and results advanced by Feldstein in his 1991 paper with Bachetta, which was a companion paper to Feldstein-Horioka. Gordon's econometric research focused on the saving/investment relationship for the U.S. economy between 1955 and 1989.

However, a further critique of the orthodox perspective, beyond those explored in Blecker and Gordon, takes into account the role of financial market activity—and in particular innovations in the system of financial intermediation—in relaxing an economy's saving constraint as a source of credit supply. Keynes himself gave considerable weight to this factor, writing that "In general, the banks hold the key position in the transition from a lower to a higher scale of activity" (1973, 222). Keynes based his position on a central institutional fact, that private banks and other intermediaries, not ultimate savers, are responsible for channeling the supply of credit to nonfinancial investors. The central bank can also substantially encourage credit growth by increasing the supply of reserves to the private banking system, thereby raising the banks' liquidity. But even without central bank initiative, the private intermediaries could still increase their lending if they were willing to operate at higher levels of leverage—an increase in loans as a share of their total assets.<sup>27</sup>

### Evidence on U.S. Economy

In considering the empirical evidence regarding the sources of credit within the U.S. economy over the past 50 - 60 years, the most basic result is that the level of

<sup>&</sup>lt;sup>27</sup> Pollin (1996) explores this issue in depth.





credit market borrowing and lending are not closely tied to, much less constrained by, domestic saving rates. Moreover, there are three factors responsible for this divergence between sources of credit and domestic saving rates:

1. Financial innovation within the U.S. economy itself has enabled lending to increase relative to a given level of saving, since non-bank lending sources such as mutual funds, hedge funds, and private equity dealers have been only weakly regulated, and thus have been able to operate with lower capital and reserve requirements;

2. There has been a substantial increase in funds flowing into the United States from other countries, in contrast with the evidence for the OECD overall advanced by Feldstein and Horioka for an earlier period; and

3. Government policies, including fiscal, monetary, and direct government lending operations also increase the flexibility of the economy's lending capacity relative to any given level of domestic saving.

Lending/Saving Ratio. The basic evidence on the relationship between credit sources and saving rate can be shown through examining the relative movements of total credit market lending in the economy relative to gross private saving. In Figure 9.1, we show this relationship in quarterly data from 1953.2 to 2012.2.<sup>28</sup>

<sup>&</sup>lt;sup>28</sup> One could also generate alternative specifications of the lending/saving ratio, such as considering only corporate or household saving as opposed to total private saving, as well as net rather than gross private saving. As discussed in Pollin (1996), these alternative specifications do not alter the basic result.





Figure 9.1 Aggregate Credit Market Lending and Gross Saving in the U.S. Economy 1953.2 - 2012.2





#### B) Aggregate Lending as percentage of Gross Saving

As we see, the upper panel of Figure 9.1 shows the movements over time in the two





data series in real 2012 dollars. There are two periods in which huge divergences emerge in these patterns, the mid-1980s and the period after around 2000. The divergences are significantly larger and swing more intensively after 2000, especially, not surprisingly, just prior to and subsequent to the financial crisis. Thus, in 2007 Q.3, aggregate lending was \$5.8 trillion and gross private saving was \$2.2 trillion. By 2009 Q.3, aggregate lending had fallen to - \$780 billion while gross private saving was at + \$1.5 trillion.

The lower panel of Figure 9.1 plots the ratio of total credit market lending in the U.S economy as a percentage of gross domestic saving, what we term the lending/saving ratio. As we see, total lending averaged about 45 percent of gross domestic saving up until 1970. The ratio ranges widely on a quarter-to-quarter basis up until 1970, between 17 – 67 percent, but no trend emerges. A rising trend does then emerge in the first half of the 1970s, such that by the end of the 1970s, lending has risen to roughly 100 percent of gross domestic saving. By the early 1980s, then lending rises dramatically relative to saving, peaking at over 200 percent in 1985 Q.4, before dropping sharply, and falling below 100 percent by 1993. The ratio then fluctuates around 100 percent for most of the 1990s before beginning another sharp upward ascent in 2001. During the financial bubble years, the lending/saving ratio continues to rise to unprecedented levels, peaking at 266 percent in 2007. When the ratio falling into negative territory, before rising up to about 60 percent of saving by 2012.

By observing these figures, it is evident that there is no closely bound relationship between lending and saving flows within the U.S. economy. This informal observation is basically supported through formal cointegration analysis, in which, under most specifications and measures of statistical significance, we find

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that that total lending and gross private saving do not operate with a long-run equilibrium relationship.<sup>29</sup>

### Sources of Divergence between Credit Supply and Saving

To understand this divergence between credit supply and saving further, we present in Table 9.1 the sectoral decomposition of the major lending sources for the U.S. economy beginning in the 1960s. The figures are presented as decade averages, other than the period beginning with 2000. In that case, we consider as one group the years prior to the financial crisis, 2000 – 2007, as one time period. We then also consider the years from 2008 until the second quarter of 2012 as a separate period.

<sup>&</sup>lt;sup>29</sup> The tests we performed were simple bivariate Engle-Granger cointegration tests, i.e. Lendingt =  $a + BSavingt + \varepsilon$ , with the test of cointegration being the Dickey-Fuller test for a unit root in  $\varepsilon$ . We tested this relationship with and without a time trend as a separate explanatory variable. When including a time trend, there was no support for cointegration down to the 10 percent significance level. When excluding a time trend, there was evidence at a 10 percent significance level, but not at higher levels of significance.





# Table 9.1. Sectoral Decomposition of Major Lending Sources for

# U.S. Economy

(figures are percentages of total lending sources)

	1960-	1970 -	1980 -	1990 -	2000 -	2008 -
	69	79	89	99	07	2012.2
U.S. located	51.1%	47.1%	27.0%	12.2%	20.3%	8.1%
Depository						
Institutions						
and Affiliates						
U.S. Insurance	18.1%	15.4%	17.8%	15.6%	6.7%	3.7%
Companies						
and Pension						
Funds						
Other U.S.	6.1%	5.4%	15.2%	25.7%	28.3%	79.4%
Non-Bank						
Intermediaries						
Foreign	1.5%	6.0%	6.9%	13.3%	20.4%	46.2%
Lending						
Sources						
Government	9.6%	14.0%	18.2%	21.9%	20.5%	-40.5%
and						
Government-						
Sponsored						
Agencies						

Source: U.S. Flow of Funds Account, Table F.1

The basic decade-average trends that we see from the table are clear. Over the 1960s, commercial banks alone accounted for over 50 percent of all lending. Another 20 percent of all lending came from traditional insurance companies and pension funds. Other non-bank intermediaries accounted for only 6.5 percent of total loans. These intermediaries include mutual funds, finance companies, assetbacked securities issuers, real estate investment trusts, broker/dealers, holding companies, and funding corporations. As we discuss more below, these institutions





comprise what has been variously termed the "parallel banking system" or more recently the "shadow banking system."

In addition, funds originating from the rest of the world accounted for only 1.5 percent of total credit supply. Credit coming from federal, state and local government sources, as well as government-sponsored agencies such as Fannie Mae, accounted for a total of 9.6 percent of all sources in the 1960s.

As Table 9.1 shows, over the course of the following four decades, commercial banks have become substantially less significant as lending sources while non-bank intermediaries and foreign sources have grown correspondingly. In the period 2000 – 2007, non-traditional intermediaries and foreign lending account for nearly half of all credit supplied within the U.S. financial system. The U.S. government and government-sponsored agencies accounted for another 20 percent of the total. That is, traditional commercial banks, insurance companies and pension funds combined accounted for only 27 percent of all lending.

For the most part, these trends became even more pronounced with the onset of the 2008-09 financial crisis and recession. That is, non-bank intermediaries are by far the largest supplier of credit, accounting for nearly 80 percent of the total, and foreign sources accounted for another 46.2 percent of the total. The one big change in the trend after the financial crisis is that lending by the various government branches as well as the government-sponsored agencies turned sharply negative between 2008 and 2012, at -40.5 percent. This is due, in roughly equal measures, to the collapse of Fannie Mae and Freddie Mac amid the broader financial crisis and to the severe fiscal crisis experienced by state and local governments resulting from the recession.

More broadly, as we see below, the U.S. financial system has undergone a dramatic transformation since the 1960s in terms of lending sources. We now consider these patterns in terms of institutional and qualitative evidence, to complement this statistical portrait. We focus on non-bank intermediaries and

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foreign sources of funds. We examine the role of government-sponsored agencies in detail in Chapter 12 of this study.

#### Shadow Banking System

The shadow banking system is comprised of the mutual funds, finance companies, asset-backed securities issuers, real estate investment trusts, broker/dealers, holding companies, and funding corporations that began growing rapidly in the 1980s. A first crucial fact to underscore about these entities is that they were far less regulated than commercial banks, insurance companies and pension funds. The rise of these lending sources therefore contributed to the weakening of the U.S. regulatory system in the period prior to the formal repeal of Glass-Steagall in 1998.

In fact, a main driver in the evolution of the U.S. financial system over the past 50 years has been precisely the development of institutions and financial market instruments designed to operate with weaker regulatory constraints and at higher levels of leverage. A prescient early discussion of the rise of the shadow banking system was by D'Arista and Schlesinger (1993), who used the term "parallel banking system." D'Arista and Schlesinger summarized their position as follows:

During the past two decades, the [financial system] has been reshaped by the spread of multifunctional financial conglomerates and the emergence of an unregulated parallel banking system. Along with other powerful trends like securitization. broken these events have down the carefully compartmentalized credit and capital marketplace established by the New Deal legislation 60 years ago. Today a variety of unregulated financial intermediaries operate on the fringes of the financial system....Mortgage companies, less regulated than their thrift competitors, constitute a parallel housing finance system. The finance companies obtain their funds from banks as well as from the money market mutual funds and other institutional investors who buy their notes, bonds, and commercial paper. (1993, p. 158).





Subsequent to D'Arista and Schlesinger's pioneering work, the centrality of the "parallel" or "shadow banking system" has become evident, and certainly no longer operating at what D'Arista and Schlesinger termed the "fringes" of the financial system. One important overview study on this is by Adrian and Shin (2010), which carefully documents the growing significance of the shadow banking system and its role in creating the conditions for the financial crisis. As they write:

The U.S. financial system underwent a far-reaching transformation in the 1980s with the takeoff of securitization in the residential mortgage market. Until the early 1980s, banks and savings institutions (such as the regional savings and loans) were the dominant holders of home mortgages. However, with the emergence of securitization, banks sold their mortgage assets to institutions that financed these purchases by issuing mortgage-backed securities (MBSs). In particular, the GSE (government-sponsored enterprise) mortgage pools became the dominant holders of residential mortgage assets. Market-based holdings now constitute two-thirds of the \$11 trillion total of home mortgages (2010, p. 2-3)

Adrian and Shin also point out that while residential mortgages have been the most important element in the evolution of securitization, the trend extends as well to other forms of lending, including consumer loans such as those for credit card and automobile purchases, as well as commercial real estate or corporate loans. They also document clearly how this rise in the shadow banking system has changed the mode of financial intermediation, from what they term a traditional "short intermediation chain" to "long intermediation chains." With a short intermediation chain for mortgage lending, surplus-unit households deposit funds with mortgage banks. The mortgage banks in turn make mortgage loans to deficit-unit households, enabling these households to purchase a home.





Adrian and Shin contrast this with the long intermediation chain for mortgage lending under the shadow banking system. They portray the long intermediation chain in the Figure 9.2 below.

# Figure 9.2 Long Intermediation Chain under Shadow Banking System,





According to Adrian and Shin, this long intermediation chain operates as follows: Mortgages are originated by financial institutions such as banks that sell individual mortgages into a mortgage pool such as a conduit. The mortgage pool is a passive firm (sometimes called a warehouse) whose only role is to hold mortgage assets. The mortgage is then packaged into another pool of mortgages to form MBSs, which are liabilities issued against the mortgage assets. The MBSs might then be owned by an asset-backed security (ABS) issuer who pools and tranches them into another layer of claims, such as collateralized debt obligations.

A securities firm (e.g., a Wall Street investment bank) might hold collateralized debt obligations on its own books for their yield but will finance such assets by collateralized borrowing through repurchase agreements (i.e., repos) with a larger commercial bank. In turn, the commercial bank would





fund its lending to the securities firm by issuing short-term liabilities, such as financial commercial paper. Money market mutual funds would be natural buyers of such short-term paper, and, ultimately, the money market fund would complete the circle as household savers would own shares of these funds.

Adrian and Shin conclude their analysis of the shadow banking system by arguing that this system has allowed financial intermediaries to operate with higher levels of leverage by buying up each other's securities. This increase in leverage has in turn contributed to the fragility of the financial system.

Between the publication of D'Arista and Schlesinger's 1993 paper and the 2010 Adrian and Shin study, many other researchers have of course examined the transformation of the U.S. system of financial intermediation, and its impact on the supply of credit throughout the economy. A sampling of these papers include Canner, Passmore and Laderman (1999), Lyons (2003), Ambrose and Thibodeau (2004), Loutskina and Straham (2006) and Nini (2008). Most of these studies provided a favorable assessment of these developments, especially with respect to the innovations in mortgage financing offering greater access to both home ownership and liquidity for non-wealthy households. However, many other analysts, operating within various heterodox traditions, recognize these intermediation patterns as serving to destabilize the U.S. financial system (e.g. Jarsulic 2013; Greenberger 2013; and Wolfson 2013).

#### **Foreign Credit Sources**

The situation with large foreign inflows into the U.S. credit market is straightforward in terms of the data patterns themselves. That is, beginning especially in the 1990s, foreign lenders have been increasingly willing to channel credit into U.S. financial markets as opposed to focusing their lending within their own domestic economies or other foreign countries. As a result of this pattern, it is evident that the argument advanced by Feldstein and Horioka that domestic investment is constrained by domestic saving has long been inapplicable for the U.S.

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economy on straightforward empirical grounds (aside from any other analytic arguments).

A key question that arises from this pattern is why foreign surplus units are eager to channel credit into the U.S. economy, especially given that this pattern prevailed during both the most recent financial bubbles and the subsequent financial crashes in 2001 and 2008. Standard explanations for this pattern focus on the impact of U.S. trade deficits as a causal factor. That is, with the U.S. having run trade deficits persistently since the 1970s, this has meant that foreigners have been accumulating dollar holdings to match their U.S.-based trade surpluses. The foreigners then have chosen to reinvest these dollar holdings within the U.S. financial markets.

However, as Bernanke (2005) has pointed out, this perspective does not explain the motives for the foreigners choosing to reinvest in the U.S. as opposed to converting their dollar holdings into investments within either their home countries or other countries. The explanation that Bernanke gives is that investors in other countries see the U.S. financial market as a relatively safe investment haven in comparison with alternatives, both within their home countries as well as elsewhere. Bernanke writes:

A key reason for the change in the current account positions of developing countries is the series of financial crises those countries experienced in the past decade or so. In the mid-1990s, most developing countries were net importers of capital....These capital inflows were not always productively used. In some cases, for example, developing country governments borrowed to avoid necessary fiscal consolidation; in other cases, opaque and poorly governed banking systems failed to allocate these funds to the projects promising the highest returns. Loss of lender confidence, together with other factors such as overvalued fixed exchange rates and debt that was both shortterm and denominated in foreign currencies, ultimately culminated in painful financial crises, including those in Mexico in 1994, in a number of East Asian





countries in 1997-98, in Russia in 1998, in Brazil in 1999 and in Argentina in 2002....In response to these crises, emerging-market nations either chose or were forced into new strategies for managing international capital flows. In general, these strategies involved shifting from being net importers of financial capital to being net exporters, in some cases very large net exporters. (2005, p. 5).

Bernanke's 2005 argument only applies to conditions in other countries that have experienced financial instability, with investors in these countries seeking out a safer investment haven within the U.S. How do we explain the ongoing credit supply into the U.S. after the U.S. itself experienced a severe financial crisis?<sup>30</sup> The explanation for this is that foreign lenders continued to view the U.S. as a relatively safe investment haven, despite the financial crisis and recession. That is, while the risk/return profile within the U.S. economy clearly deteriorated after 2008, at the same time, U.S. conditions appeared to be favorable relative to those in Europe and Japan. This has enabled the U.S. financial markets to continue to rely heavily on foreign sources of credit—so much so, that, as we saw above, through 2008-12, these sources accounted for fully 46 percent of the positive net inflow of credit into the U.S. financial markets.

<sup>&</sup>lt;sup>30</sup> Bernanke, along with colleagues, did update his argument in a 2011 paper, but here as well the focus is on conditions within the U.S. prior to the crisis.





# Chapter 10. Sources of Funds for Business Investment

To finance their activities, businesses can utilize, in various combinations, either internally generated funds or external funds. Moreover, there are alternative ways of obtaining external funds—through issuing new equity or bonds, borrowing from banks or on the commercial paper market, mortgage financing, among other possibilities. As we will see below, the use of these various sources of funds vary considerably, between and among corporate and non-corporate business firms, and over time. Two major causes of variation over time have been, first, the long-term development of "financialization," i.e. non-financial business firms becoming more focused on generating profits through managing their balance sheets as opposed to focusing on non-financial activities as their focal point. A second major change occurred as a result of the 2007-09 recession, which led to previous business financing patterns being overturned.

It will be useful to review data from the U.S. Flow-of-Funds Accounts (FFA) to obtain an initial basic picture of the sources of funds for business investment. In Tables 10.1 and 10.2, we present figures on non-financial corporations, and in Tables 10.3 and 10.4 on non-corporate businesses. The data presented are quarterly, and grouped over time according to full peak-to-peak business cycles, as measured by the National Bureau of Economic Research. To keep the presentation manageable, we have combined three sets of two NBER cycles into one time period. These are: 1953.Q.2 57.2 and 1957.3 – 1960.1; 1969.4 – 1973.3 and 1973.4 – 1979.4; and 1980.1-1981.2 and 1981.3-1990.2.

#### Financing Sources for Non-Financial Corporations

#### Corporate Internal Funds and Investment

In Table 10.1, we present figures on sources of funds as a percentage of corporations' spending on new fixed investment. The first point to observe from Table 10.1 is with respect to the relative movements of corporations' internal funds in relationship to spending on fixed investment. As we see, the level of internal funds is greater than the spending levels for fixed investment—that is, internal funds





as a share of fixed investment consistently exceeds 100 percent. The one exception is the period 1969 Q.4 – 1979 Q.4, where internal funds equal 93.6 percent of fixed investment expenditures. Otherwise, the range is between 101.1 percent during 1980.1 – 1990.2 and 128.2 during the most recent recession and post-recession period, 2007.4 – 2012.2. It is also notable that the standard deviations around these mean values for internal funds/fixed investment are low. It is reasonable to conclude from this that corporate fixed investment levels are closely correlated with their profits, and how much of their profits they retain, as opposed to pay outs in either taxes or dividends to shareholders.





Table 10.1 Sources of Funds for U.S. Non-Financial Corporate Business: Internal Funds, Borrowed Funds, and Financial Asset Purchases

## *Quarterly data averaged over NBER business cycles, In percentages, with standard deviation in parentheses*

	1953.2	1960.2	1969.4 –	1980.1-	1990.3 -	2001.1 -	2007.4 -
	-	-	1979.4	1990.2	2000.4	2007.3	2012.2
	1960.1	1969.3					
1. Retained	105.6	110.5	93.6	101.1	101.5	107.5	128.2
earnings as share of investment (internal funds + iva)/fixed	(11.2)	(1.0)	(9.5)	(11.4)	(8.6)	(11.7)	(22.0)
investment)	·						
2. Borrowed	45.7	55.1	83.3	81.0	66.0	56.0	39.2
tunds as	(34.0)	(18.6)	(25.9)	(49.0)	(41.8)	(47.6)	(45.1)
investment (Net increase in liabilities/fixed investment)							
3. Financial	32.0	35.1	53.7	56.7	68.1	58.3	44.1
asset purchases as share of investment ( <i>Net</i> acquisition of financial assets/fixed investment)	[44.7]	(23.9)	(28.4)	(47.6)	[41.3]	(41.0)	(59.4)

Source: U.S. Flow of Funds Account, Table F.102

Note: The time-period groupings combine three sets of NBER cycles into one cycle. These are: 1953.2- 1957.2 and 1957.3 – 1960.1; 1969.4 – 1973.3 and 1973.4 – 1979.4; and 1980.1-1981.2 and 1981.3-1990.2

#### Corporate Borrowing and Financial Asset Purchases Relative to Investment





The second row of Table 10.1 presents figures on the level of borrowing—i.e. net new liabilities—and in the third row shows financial asset purchases by corporations relative to their fixed investment expenditures. What is clear from these two sets of figures is that, despite the fact that, in the aggregate, corporate businesses are generally able to finance their fixed investment expenditures with their internal funds, they do also undertake borrowing on a large scale beyond what is needed to finance their fixed investments. In the aggregate, this level of borrowing is used by corporations to purchase financial assets. These financial asset purchases include various forms of deposits, including, increasingly over time, money market fund shares. They also use their borrowed funds for financing foreign investments. There is also a large category of undifferentiated "other" financial asset purchases, as reported by the FFA.

In examining rows 2 and 3 of Table 10.1, we also can observe the extent to which corporate borrowing to purchase financial assets increases over time. Thus, during 1953 Q.2 – 1960 Q.1, corporate borrowing equaled 45.7 percent of fixed investment and asset purchases equaled 32.0 percent. By 1969 Q.4 – 1979 Q.4, borrowing rose to fully 83.3 percent of investment, and asset purchase to 53.7 percent. These higher levels of borrowing and asset purchases are then sustained over 1980 Q.2 – 1990 Q.2. Borrowing does then decline during 1990 Q.3 – 2000 Q.4, to 66.0 percent, but asset purchases actually rises, to 68.1 percent of fixed investment. Both ratios then fall off in the aftermath of the financial crash and recession, during 2007 Q.4 – 2012 Q.2.

With these figures on corporate borrowing and financial asset purchases, it is also significant that the standard deviations around the mean values are substantially larger than with the retained earnings/fixed investment ratios. Clearly, the financial engineering activities by firms operate according to much less wellestablished criteria, which in turn are generating much larger fluctuations quarterto-quarter than occur with the relationship between internal funds and fixed investment.

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#### **Decomposition of Corporate Liabilities**

In Table 10.2, we present figures on the major categories of sources of funds for non-financial corporations. The categories we include from the FFA are net new equity, corporate bonds, loans from depository institutions, and commercial paper. This is not the full set of sources of funds, as is evident, given that the percentages reported do not add up to 100 percent of liabilities at any point. It is important here to note that the FFA includes an undefined "other" category in their non-financial corporation figures that is frequently large in magnitude. As such, all figures on sources of liabilities should be understood as providing only imprecise approximations.

# Table 10.2 Decomposition of Corporate Liabilities: Net Equity, Corporate Bonds, Commercial Paper and Bank Loans

# *Quarterly data averaged over NBER business cycles, In percentages, with standard deviations in parentheses*

			1				
	1953.2 -	1960.2 -	1969.4 –	1980.1-	1990.3 -	2001.1 -	2007.4 -
	1960.1	1969.3	1979.4	1990.2	2000.4	2007.3	2012.2
Net New	16.1	5.4	9.0	-289.5	-8.7	-10.2	-38.4
Equity/Liabilities	(64.3)	(9.0)	(9.2)	(174.3)	(36.2)	(78.9)	(270.1)
Commercial	0.0	1.9	1.3	-59.4	2.3	-8.0	5.7
Paper/Liabilities	(8.6)	(5.3)	(5.5)	(400.5)	(12.6)	(52.6)	(20.3)
Corporate	19.0	30.8	24.6	670.1	51.1	1.4	11.7
Bonds/Liabilities	(88.7)	(24.9)	(23.9)	(4160.3	(66.0)	(191.8)	(207.2)
				)			
Bank	22.4	20.5	6.6	220.1	-0.7	-0.2	28.2
Loans/Liabilities	(32.3)	(17.7)	(21.5)	(1318.4	(43.5)	(126.3)	(145.8)
				)			

Source: U.S. Flow of Funds Account, Table F.102

Note: The time-period groupings combine three sets of NBER cycles into one cycle. These are: 1953.2- 1957.2 and 1957.3 – 1960.1; 1969.4 – 1973.3 and 1973.4 – 1979.4; and 1980.1-1981.2 and 1981.3-1990.2





Nevertheless, we can obtain some useful information from the figures in Table 10.2. The first point is that the sources of funds vary sharply on a quarter-to-quarter basis. We can see this through the standard deviation figures, which are consistently in the range of, or larger than, the mean figures.

A second significant point that emerges here regards equity financing. From 1969 Q.4 to 1979 Q.4, equity financing was, on balance, a positive contributor to the overall level of liability flows, though with wide fluctuations on a quarterly basis, as shown through the standard deviation figures. But beginning with the 1981 Q.2 – 1990 Q.2 cycles net new equity becomes negative on average, albeit, again, with very large standard deviations. This is one strong indicator of corporations engaging in financial engineering to a rising extent, since what the figures indicate is corporations buying back their own shares to improve their stock price. It is clear from these figures that this became an increasingly widespread practice beginning in the 1980s and continuing to the present.

Corporate bonds and loans from depository institutions are generally important sources of external funds for corporations. However, the amounts being obtained through these sources as a share of total liability flows do vary widely, both from cycle to cycle and on a quarter-to-quarter basis. The proportion of external funds supplied by short-term commercial paper also varies considerably on a quarter-toquarter as well as a cycle-to-cycle basis. However, at no point is commercial paper a major source of funding for corporations.

# Financing Sources for Non-Corporate Businesses

### Non-Corporate Business Internal Funds and Investment

The figures in Table 10.3 make clear that non-corporate businesses in the U.S. are distinct in their financing patterns relative to corporate firms. To begin with, business savings/internal funds are generally significantly less than the level of spending on fixed investments by non-corporate businesses. As we see, prior to the 2007 Q.4 – 2012 Q.2 period, business savings amount to between 59.0 – 81.2 percent





of fixed investment spending. Prior to the Great Recession period, the standard deviations around these mean values are relatively low, indicating that the relationship between internal funds and fixed investment is relatively stable from quarter to quarter, as it was for corporate businesses as well.

# Table 10.3. Sources of Funds for U.S. Non-Financial Non-Corporate

## Business

# *Quarterly data averaged over NBER business cycles, In percentages, with standard deviations in parentheses*

	1953.2 -	1960.2 -	1969.4 –	1980.1-	1990.3 -	2001.1 -	2007.4 -
	1960.1	1969.3	1979.4	1990.2	2000.4	2007.3	2012.2
Business	75.0	61.6	60.3	67.8	81.2	59.0	94.8
Saving as	(4.4)	(5.9)	(9.3)	(6.0)	(14.4)	(3.8)	(14.1)
share of							
investment							
(Gross saving							
/fixed							
investment)							
Borrowed	31.1	44.2	62.0	51.4	85.2	152.7	-4.9
funds as	(21.1)	(12.0)	(19.0)	(19.7)	(54.7)	(60.8)	(75.4)
share of							
investment							
(Net increase							
in							
liabilities/fixed							
investment)	F 0	0.0	10 /	10 /		110 1	0.0
Financial	5.2	2.0	19.6	19.6	64.1	110.1	-8.8
asset	(17.1)	(8.6)	(11.2)	(15.4)	(41.2)	(59.1)	(60.1)
purchases as							
share of							
investment							
(Net							
acquisition of							
financial							
assets/fixed							
investment)							

Source: U.S. Flow of Funds Account, Table F.103





Note: The time-period groupings combine three sets of NBER cycles into one cycle. These are: 1953.2- 1957.2 and 1957.3 – 1960.1; 1969.4 – 1973.3 and 1973.4 – 1979.4; and 1980.1-1981.2 and 1981.3-1990.2

During the Great Recession period, in sharp contrast with the six previous time periods shown in Table 10.3, fixed investments are covered almost fully by internal funds, with the saving/fixed investment ratio rising to 94.8 percent. As we discuss further below, this is one indicator of the collapse of credit flowing to small businesses during the recession relative to previous periods.

From the figures on business saving relative to fixed investment, it is clear that non-corporate businesses rely on external funds to finance their fixed investment spending to a far greater extent than corporate businesses. Thus, over 1953 Q.2 – 1960 Q.1, borrowing as a share of fixed investment was 31.1 percent. Adding that figure to the business saving/fixed investment ratio of 75.0 percent brings the total of internal funds plus external sources up to 106.1 percent of fixed investment over this period—i.e. only modestly greater than the total amount needed for businesses to fund their fixed investment was 44.2 percent. Adding that figure to the internal funds/fixed investment was 44.2 percent totals 105.8 percent of fixed investment, from all internal plus external funding sources. Put another way, through the 1960s, non-corporate businesses were not engaged in financial asset purchases. As Table 10.3 shows, financial asset purchases constituted only 5.2 and 2.0 percent of fixed investment through these first two periods.

This pattern begins to change significantly over the next two time periods, 1969 Q.4 – 1979 Q.4 and 1980 Q.1 – 1990 Q.2. In these periods, borrowing rises, on average, as a proportion of fixed investment, to 61.0 and 51.4 percent respectively. Correspondingly, financial asset purchases also rise, to nearly 20 percent of fixed investments over both periods.

A dramatic change in non-corporate business financing occurs in the 1990 Q.3 – 2000 Q.4 period, when borrowing rises to 85.2 percent of fixed investment, and




financial asset purchases rises to 64.1 percent. This pattern becomes still more pronounced in the financial bubble period prior to the Great Recession, over 2001 Q.1 – 2007 Q.3. During this period, the level of borrowing by non-corporate businesses reaches 157.7 percent of fixed investment, and financial asset purchases amounted to 110.1 percent of fixed investment. Clearly, by this time period, non-corporate businesses had undergone a transformation in their financial operations. Seen in the aggregate, they had become fully integrated in the financialization trend that had earlier become a major focus for corporate business managers.

But this rise in borrowing and financial asset purchase are then fully reversed during the 2007 Q.4 – 2012 Q.2 period, with non-corporate businesses showing a net negative flow of external sources relative to fixed investment of – 4.9 percent. They also became net sellers, as opposed to purchasers, of financial assets, at -8.8 percent of fixed investments.

### Decomposition of Non-Corporate Liability Flows

Table 10.4 shows figures on the proportions of total liabilities for non-corporate businesses flowing from three major sources, i.e. loans from depository institutions, mortgages and net investments from business owners. As we can see from both the mean and standard deviation figures in the table, the external sources of funds for non-corporate businesses vary widely both from cycle to cycle and within cycles on a quarterly basis. There is no single source of external funds that is consistently larger than other sources, or even that consistently serves as a net positive source of funds.

Mortgage loans are most commonly the largest source of external funds for noncorporate businesses. But the amounts being obtained from mortgages vary between -48.7 percent of total liabilities over 1953 Q.2 – 1960 Q.1 and 270.9 percent in 2007 Q.4 – 2012 Q.2. Both of these mean figures also have standard deviations associated with them that are much larger than the means.

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# Table 10.4 Decomposition of Non-Corporate Business Liabilities: Loans from Depository Institutions, Mortgages and Owners' Net Investment

*Quarterly data averaged over NBER business cycles, In percentages, with standard deviations in parentheses* 

	1953.2 –	1960.2 -	1969.4 -	1980.1-	1990.3 -	2001.1 -	2007.4 -
	1960.1	1969.3	1979.4	1990.2	2000.4	2007.3	2012.2
Depository Institution Loans/Liabilities	-15.5 (154.2)	15.6 (11.7)	21.9 (16.4)	11.1 (12.1)	15.0 (13.4)	16.2 (8.2)	-109.4 (805.6)
Mortgage	-48.7	84.6	77.9	110.1	2.7	48.0	270.9
Loans/Liabilities	(697.0)	(40.4)	(68.6)	(55.9)	(88.7)	(13.8)	(935.4)
Owners' Net Investment/ Liabilities	155.7 (930.0)	8.1 (40.4)	-43.5 (86.8)	-61.0 (75.6)	41.5 (88.8)	13.3 (23.8)	2.8 (221.4)

Source: U.S. Flow of Funds Account, Table F.103

Note: The time-period groupings combine three sets of NBER cycles into one cycle. These are: 1953.2- 1957.2 and 1957.3 – 1960.1; 1969.4 – 1973.3 and 1973.4 – 1979.4; and 1980.1-1981.2 and 1981.3-1990.2

Loans from depository institutions are relatively stable from the 1960s up until the Great Recession period. The mean figures range between 11.1 and 21.9 percent of total liabilities, with standard deviations generally around the same levels as the means.

The contributions from owners' own investment funds fluctuates most widely between these three external fund sources, as measured both by means and standard deviations. It thus appears from these figures that, in the aggregate, noncorporate business owners are contributing their own funds to businesses as a residual source of funds when their internal and other external sources are inadequate to cover the desired levels of both fixed investments and financial asset





purchases. Given that funds from other external sources themselves fluctuate significantly both between and within business cycles—i.e. both over the short- and longer terms—it follows that the net investments from business owners would also fluctuate widely as well.

#### **Corporate Financing Sources**

### **Corporate Internal Funds and Investment**

The pattern that we observed in Table 10.1, showing the close correlation between corporations' internal funds and their level of fixed investment has been long recognized and analyzed within both the mainstream and heterodox economics literature. This empirical pattern is inconsistent with the highly influential Modigliani-Miller (MM) "irrelevance postulate" (1958) regarding the relationship between corporate financing and investment. According to the MM postulate, a firm's financial structure is irrelevant to investment because external funds provide a perfect substitute for internal capital. Assuming perfect capital markets, a firm's investment decisions should therefore be independent of its financial condition. As such, a large amount of attention within the literature has been devoted to understanding why the MM postulate does not hold in practice.

### Why Corporations Rely on Internal Finance

Within the Post-Keynesian tradition, the most influential work on the question has been that of Minsky (e.g. 1986). Minsky's model, as he puts it, is a financial theory of investment leading to an investment theory of instability. It is within the framework of this model that he establishes a priority for firms to rely on internal over external funds in financing their investment activities. Minsky develops his model based on two price systems: one for current output, and the other for existing assets. The proximate determinants of current output prices are conditions in the product and labor markets, in particular the mark-up of wages over costs for a given level of productivity. The price of existing capital assets depends on supply and demand. But the supply of existing assets is fixed in the short run and the proximate determinants of demand are the expected profit yield of an asset and its expected degree of liquidity.





As such, the price of existing capital assets is governed by uncertainty over profit flows from any given asset and the ability to sell the asset at face value when desired .

It is within this overall framework that Minsky then considers how investment projects will be financed. To develop his argument, Minsky incorporates the influences of borrower's and lender's risk that result when investment is externally financed but are not present with internal finance. Minsky argues that borrower's risk arises to the extent that purchasers of capital assets must debt finance their investment projects and hence increase their exposure to default risk. To compensate for their increased risk, borrowers lower the price at which they are willing to purchase the asset. How much will the price of existing assets decline? According to Minsky, this cannot be measured objectively, but rather depends on the extent of borrowers' leveraging and on how external financing influences borrowers' assessments of project risk and return. The demand price for capital assets will thus fall when asset purchases are debt financed, but by an indeterminate amount. Lender's risk is incorporated in the terms imposed on borrowers: higher loan rates, shorter terms to maturity, collateral, and restrictions on dividend payouts. These costs will vary directly with the leveraging of the investing firm. But the assessment of how high these costs should be is also subjective, dependent upon various evaluations of both the expected profitability of projects and probability of default for a given degree of leveraging.

Minsky thus argues that investment will take place at a level that equates the prices of current output and existing assets, but only after existing asset prices are influenced to an indeterminate degree by borrower's risk, and current output is altered by lender's risk. Because borrowers' and lenders' risk exert strong influences in establishing corporations willingness to assume debt, investors will initially prefer to finance investment through internal sources over external sources. Their reliance on external sources—to finance both productive investment and financial asset purchases—will then increase to the extent they are willing to assume greater levels of risk. This will occur over the upswing in business cycles and especially during financial bubbles, as the assumption of higher risk levels are validated by rising asset





prices. In any case within this Minsky framework, over the course of full business cycles, it is clear that the MM corporate financing "irrelevance postulate" will not hold.

The Minskian model bears a resemblance to the asymmetric information-based theoretical models derived from New Keynesian economics. Within this approach, as characterized by, for example, Stiglitz and Weiss (1981), providers of external finance cannot possibly know as well as the firms themselves what the true conditions are facing the firms. As such, firms are better positioned to finance their own operations than outside financiers, and thereby provide financing on better terms—i.e. lower opportunity costs—than would be possible from external lenders.

Fazzari and his co-authors (e.g. 1988, 1993) were innovators in exploring the relationship between internal and external financing through empirical investigations that are complimentary to the Minskian theoretical framework. Examining investment patterns at the individual firm level rather than in the aggregate, Fazzari showed that all firms and all investment projects are not equally affected by financial conditions. Rather, firms that are growing rapidly are able to rely more fully on internal funds, while firms that are growing slowly will be more reliant on external sources. At the same time, firms experiencing weaker cash flow will also be more sensitive to the costs of capital when they consider increasing their reliance on external sources of funds.

Other empirical studies have presented additional explanations as to why corporate firms rely more heavily on internal funds to finance investment. For example, Oliner and Rudenbusch (1992) found that the information problems in capital markets inhibit the ability of external funders to assess the risk/return prospects of firms. They reached this conclusion through estimating the sensitivity of investment spending to internal funds across firms likely to face varying degrees of both information problems and transaction costs. They found that variation in transactions costs was not significant, while information problems did indeed present difficulties for firms in raising external sources of funds. Research by Hubbard, Kashyap, and Whited (1995) also supports the argument that information asymmetries increase the





costs to firms of relying on external sources to finance their investment activities. But Hubbard et al. also argue that part of the problem with firms' reliance on internal funds is that, following Michael Jensen's "free cash flow" theory of corporate management, corporate managers may be investing in wasteful activities, which in turn contributes to the informational problems affecting potential suppliers of external funds.

These basic themes have been further explored more recently in work by, among others, Denis and Mihov (2003), Almeida and Campello (2007), and Bates, Kahle, and Stulz (2009). For example, Bates et al. (2009) examined why firms have more than doubled their holdings of liquid financial assets between 1980 and 2006. They find that the primary explanation for this is that the increasing level of risk in the economy has convinced the firms that they need to carry larger cash reserves as a precautionary strategy. That is, in Minskian terms, the rise in the perception of "borrowers' risk" has motivated firms to borrow more to hold an increased supply of liquid assets, not, as Minsky had suggested, borrow less for the purpose of financing fixed investment spending.

*Financialization and Corporate Finance.* One factor influencing corporate financing patterns that has been neglected in the mainstream literature but widely discussed by heterodox researchers is financialization. As the term is most broadly understood, it refers to the increase in the size and significance of financial markets and financial institutions in the modern macroeconomy.<sup>31</sup> Orhangazi (2008) has developed the concept as it applies to the financing of industrial corporations within the United States. Specifically, Orhangazi refers to financialization at the level of industrial firms as to designate changes that have occurred in the relationship between the non-financial corporate sector and financial markets. As Orhangazi writes:

There is certainly strong evidence to suggest that the relationship between the non-financial corporate sector and financial markets has become deeper and

<sup>&</sup>lt;sup>31</sup> Chapter 2 of this study discusses the definition and basic empirical measures of financialization, especially as regards the U.S. economy.





more complex. Non-financial corporations (NFCs) have, over the last 20 years, been increasingly involved in investment in financial assets and financial subsidiaries and have derived an increasing share of their income from them. At the same time, there has been an increase in financial market pressures on NFCs. This is in part due to changes in corporate governance, starting with the hostile takeover movement in the 1980s and proceeding to the so-called shareholder revolution of the 1990s. The same period has therefore also witnessed an increasing transfer of earnings from NFCs to financial markets in the forms of interest payments, dividend payments, and stock buybacks. These developments reflect a change in the objectives of top management, an increasing propensity to short-termism in firm decision making and/or increases in the cost of capital (p. 864).

Orhangazi conducted a formal econometric modeling exercise to examine the extent to which financializaton at the individual corporate firm level has affected productive investment activity by U.S. non-financial corporations. From this model, he does find a negative relationship between real investment and financialization. As he writes:

Two channels can help explain this negative relationship: first, increasing financial investment and increased financial profit opportunities may have crowded out real investment by changing the incentives of firm managers and directing funds away from real investment. Second, increased payments to the financial markets may have impeded real investment by decreasing available internal funds, shortening the planning horizons of the firm management and increasing uncertainty (2008, p. 863)

*Financing patterns over the Great Recession.* Still more recently, some researchers have begun to explore how sources of funds have undergone shifts as a consequence of the Great Recession. Cambello, Giambona, Graham, and Harvey (2010) found that, not surprisingly, access to credit became more important to firms' operations when faced with the severe 2007-2009 downturn. But they also found that the firms that





were most able to draw on external sources were the same firms that also had most internal cash on hand. Thus, the recession disproportionately impacted firms that already had weak cash positions, forcing these firms to choose between rebuilding their cash balances and undertaking new fixed investments. Barnes and Pancost (2011) also found sharp distinctions between the financing patterns of different firm types over the course of the recession. In particular, they found that smaller firms, which had been stockpiling cash prior to the recession, faced more severe difficulties obtaining external funds during the recession, and were disproportionately thrown off their financing patterns by the recession.

### Non-Corporate and Small Business Financing Sources

The data provided by the Flow-of-Funds Accounts on non-corporate business sources defines non-corporate businesses according to their legal status as either sole proprietorships or partnerships, rather than being corporations. These firms are not classified according to their size. Nevertheless, there is a close correspondence in fact between size and the legal status of business organizations. If we define small businesses as having 500 employees or less, most such firms are also unincorporated.<sup>32</sup> For our discussion here, we therefore use the FFA data from Tables 10.3 and 10.4 as rough proxies for the financing activities of small businesses in the U.S.

The best single reference on sources of funds for small U.S. businesses is the series of studies, *Report to the Congress on the Availability of Credit to Small Businesses*, published by the Board of Governors of the Federal Reserve in 2002, 2007 and 2012 respectively. These studies have been mandated by Congress to be published every five years. Each report to date provides extensive statistical material, drawn especially from surveys, along with analysis and full bibliographies of the relevant professional literature. At the same time, as the 2012 *Report* acknowledges, "up-to-date and comprehensive information about the universe of small businesses is

<sup>&</sup>lt;sup>32</sup> For small businesses, operating as either sole proprietorships or partnerships offer better tax arrangements, low start-up costs and simplicity in their legal operations.





sparse, and most evidence about financing needs and sources is derived from surveys," (p. 1).

#### General Credit Constraints Facing Small Businesses

The material presented in the most recent 2012 *Report* provides a detailed institutional picture that complements the statistical patterns shown in Tables 10.3 and 10.4. To begin with, the 2012 *Report* describes how "small businesses obtain credit from a wide range of sources, including commercial banks, savings institutions, finance companies, nonfinancial firms, and individuals such as family members or friends," (p. 2).

As the 2012 Report emphasizes, it is generally understood that "small firms have more difficulty gaining access to credit sources than do large businesses or other types of borrowers," (p. 1). The Report explains the reasons for this pattern as follows:

The source of this difficulty is generally considered riskier and more costly than lending to larger firms. Compared with larger firms, small businesses are much more sensitive to swings in the economy and have a much higher failure In addition, lenders historically have had difficulty determining the rate. creditworthiness of applicants for some small business loans. The heterogeneity across small firms, together with widely varying uses of borrowed funds, has impeded the development of general business standards for assessing applications for small business loans and has made evaluating such loans relatively expensive. Lending to small businesses is further complicated by the "information opacity" of many such firms. Little, if any, public information exists about the performance of most small businesses because they rarely have publicly traded equity or debt securities. Many small businesses also lack detailed balance sheets and other financial information often used by lenders in making underwriting decisions (p. 1).

Among the overall universe of small business firms, the larger ones—i.e. ones with hundreds of employees, up to 500 in total—are more likely than smaller ones to use





traditional sources of credit, such as lines of credit at banks and business term loans. Many small businesses—those with fewer than 100 employees—rely substantially on alternative means of financing, including credit cards and trade credit. The 2012 *Report* cites recent survey evidence finding that "just under 60 percent of small firms used a credit line or business loan in each year, but 90 percent used a credit card or trade credit," (p. 2).

The 2012 Report makes clear that the Great Recession created severe difficulties for small businesses in obtaining financing. The report cites survey evidence that onehalf of small businesses applied for some type of credit in 2009, and roughly half of the applicants were denied. The application rate remained similar in 2010, but the approval rate increased. By 2011, the share of firms applying for credit increased more than 8 percentage points relative to 2010, but the success rates declined back to the level of 2009. Moreover, the survey also found that there were a large number of "discouraged borrowers" among small businesses—businesses which had foregone applying for needed credit because of the expectation of denial. That is, in 2009, more than one-third of the sample reported having foregone applying for credit for this reason. As of 2011, the figure was still at about 30 percent. These findings are similar to a summer 2011 survey by Pepperdine University's Graziadio School of Business and Management (Paglia 2011). This survey found that, at that time, 95 percent of small business owners reported wanting to execute a growth strategy, but only 53 percent were obtaining the funding they needed to execute their strategy. At the same time, bankers were reporting that they were rejecting 60 percent of their loan applications.

We can see the aggregate credit supply condition for small businesses as it proceeded over the recession in Figure 10.1. As the figure shows, borrowing first rose sharply over the bubble years, from \$223.2 billion in 2001 to \$530.1 billion in 2007 (in real 2012 dollars) before plunging to negative \$135.1 billion in 2009 and negative \$201.7 billion in 2010. That is, in 2009 and 2010, non-corporate businesses did no net borrowing, but rather paid back \$337 billion in outstanding loans. Put another way, over 2009-10, smaller businesses made repayments at a level of more





than 2 percent of total U.S. GDP rather than borrowing to inject new spending into the economy. Non-corporate businesses in the aggregate then continued this basic pattern through 2011 and 2012, with non-corporate firms still undertaking virtually no net borrowing three years after the Wall Street crash.<sup>33</sup>



Figure 10.1 Borrowing by U.S. Non-Corporate Businesses, 2001 - 2012

Notes: Inflation adjustment is with producer price index; 2012 figure is through 2012.3 Source: U.S. Flow of Funds Accounts

<sup>&</sup>lt;sup>33</sup> This pattern and its macroeconomic implications are discussed in Pollin (2012).





### Chapter 11. Involvement of the Financial Sector in Restructuring

U.S. mergers and acquisitions tend to come in waves, with the most recent periods of high levels of merger activity being the 1960s, the 1980s, and the 1990s (Paultler, 2001; Holmstrom and Kaplan, 2001). Two of these merger waves - the 1980s and the 1990s - correspond to the period of financialization in the U.S., as defined and described in Chapter 1 of this report. This is not to say that the process of financialization necessarily caused these upswings in merger activity, but rather to suggest that financialization and merger activity were contemporaneous processes that would have interacted in various ways during the 1980s and the 1990s. These interactions include the mergers that took place within the financial sector itself, but also encompass the ways in which these waves of mergers have been financed and the impact that mergers have had on financial variables, such as stock prices.

In this chapter, we focus on the mergers which took place in the 1980s and 1990s, during the period of financialization. We also examine merger activity in the financial sector in the aftermath of the 2008 economic crisis and recession. The merger wave of the 1980s differed from that of the 1990s in several important respects. The mergers in the 1990s included a number of very large scale acquisitions and the average dollar value of mergers was much higher in the 1990s compared to the 1980s (Pryor, 2001a). The rapid growth of share prices during the 1990s stock market bubble would have inflated the value of these mergers, but nevertheless the scale of the largest mergers was much bigger than in the previous decade. In addition, the mergers in the 1990s were largely financed through equity, at least in part, while the mergers in the 1980s were cash-financed, often using leveraged buyouts - in which debt supplied the cash needed for the merger to take place (Holmstrom and Kaplan, 2001; Andrade, Mitchell, and Stafford, 2001). By the 1990s, the use of leveraged buyouts for hostile takeovers had largely disappeared, an issue which we will return to later (Holmstrom and Kaplan, 2001).





### Figure 11.1



*Source: Statistical Abstract of the United States, U.S. Department of the Census, various years.* 

Figure 11.1 shows trends in the number of mergers and the total dollar volume of these mergers in the U.S. from 1983 to 2003.<sup>34</sup> The figure shows an increase in the number of mergers and acquisitions in the early 1980s and a modest rise in the dollar value of these deals. However, in the 1990s, we see a dramatic increase in both the number of mergers and the value of the mergers. This suggests that the average size of mergers and acquisitions was increasing in the 1990s, along with the absolute number of such transactions. Other factors would have contributed to the rise in the dollar value of mergers. For instance, the period in the 1990s in

<sup>&</sup>lt;sup>34</sup> Data come from the Statistical Abstract of the U.S., published by the Department of the Census. Data are not available for earlier years and the Department of the Census stopped publishing data on mergers and acquisitions in 2006. Therefore, information is only available from this source for the period 1983 to 2003.





which merger activity was growing significantly also corresponded to a period in which stock prices were increasing rapidly (Pryor, 2001a). This would tend to inflate the dollar value of mergers and acquisitions. Nevertheless, the merger wave of the 1990s is generally recognized as a time of "mega-mergers" involving very large deals.

There are a number of reasons given for the observed patterns of mergers and acquisitions in the U.S. economy. These include a response to a heightened degree of global competition, an effort to take advantage of economies of scale and related efficiency gains, a maneuver to increase market power, a reaction to industryspecific shocks, a strategic response to deregulation and policy changes, weaker enforcement of anti-trust laws, and a drive to increase market share and market access. A central debate in the literature is the degree to which mergers and acquisitions enhance the long-run operational efficiency of the firms involved. Proponents for the market for corporate control contend that firms which fail to protect shareholder value - e.g. due to conflicting interests among the firms' management - should be taken over in order to correct these inefficiencies (Jensen, 1988). In the conceptual framework of the market for corporate control, managers compete with one another for the opportunity to manage corporate resources, and this competition creates efficiency gains for the economy. Mergers, acquisitions, divestitures, and restructuring are the component parts of the market for corporate control. However, the existence of actual social benefits from the theorized market for corporate control hinges on the realization of real efficiency improvements through the merger process.

Studies of the efficiency effects for the U.S. do not yield clear and unambiguous results with regard to the existence or non-existence of efficiency improvements (Paulter, 2001). Researchers typically use stock market valuations, accounting data (including profitability indicators), and industry or firm level case studies to try to document efficiency effects (ibid.) Research relying on stock market reactions to mergers and acquisitions faces the problem that the correlation between the





movement of stock prices and real performance outcomes may be weak (Ravenscraft and Scherer, 1987). Studies based on accounting measurements of profitability vary in their results, with some showing little or no impact of mergers on profitability or cash flow, although others document positive effects (see Holmstrom and Kaplan, 2001 and the review by Paultier, 2001). The type of merger appears to matter. The acquisition of specific units or assets of a firm may have larger efficiency gains than the acquisition of an entire firm (Makismovic and Phillips, 2001).

Research that tries to document changes in market power following mergers also yields mixed results. There does appear to be significant evidence that higher levels of market concentration lead to price increases (Paultier, 2001). In the U.S., market concentration has increased during the merger waves of the 1980s and 1990s, particularly in manufacturing, retail, banking, and transportation (Pryor, 2001b). However, the link between market concentration and market power can be complex. For example, airline deregulation in the U.S. may have contributed to merger activity in that industry while simultaneously making the markets more competitive (Paultier, 2001). It is unclear that the market power of airlines increased, despite higher levels of concentration, when compared to the situation before airline deregulation.

There is broad agreement that mergers do create shareholder value in terms of higher stock prices, with the largest effects accruing to the targeted firm, although the acquiring firm also typically enjoys modest benefits (Andrade, Mitchell, and Stafford, 2001; Paultier, 2001; Jensen, 1988). Many attribute these gains to improvements in operational efficiency (e.g. Andrade, Mitchell, and Stafford, 2001), although this has not been firmly established. Given the ambiguous effects of mergers on corporate efficiency and the clearer effects on shareholder value, it is possible that the increases in shareholder value are derived from something other than long-run efficiency gains. This provides an additional motivation for engaging in merger activity. One of the features of the era of financialization in the U.S. economy, as discussed in Chapters 1 and 10, is the growing emphasis on short-run





improvements in shareholder value – which manifests itself in higher stock prices – rather than long-run improvements in productivity or profitability. Therefore, a shift in incentives towards increasing shareholder value could result in waves of mergers, even if the efficiency gains claimed by those supporting the market for corporate control never materialize. With the growth of stock options as a form of executive compensation, particularly in the 1990s, managers increasingly had a stake in strategies that would raise share prices, creating an alliance between shareholders and top executives which would provide support for merger activity (Holmstrom and Kaplan, 2001). This is how take-over activity can be privately beneficial even when they are not socially desirable (Shleifer and Summers, 1988).

Turning to the U.S. financial sector, commercial banking experienced a significant amount of merger activity during the period of financialization. Indeed, since the 1980s the level of merger activity in the banking sector has been dramatic by historical standards. In the 1980s and 1990s – specifically from 1980 to 1998 – there were about 8,000 bank mergers involving \$2.4 trillion in assets (Rhoades, 2000). Figure 11.2 shows the number of commercial banks in the U.S. from 1980 to 2011. Over this period, the number of commercial banks was cut in half – from 14,434 banks in 1980 to 6,291 in 2011. Single unit banks – smaller banks without branches – accounted for a large portion of this decline. Of the over 8,100 banks which disappeared from 1980 to 2011, 75 percent were single unit entities.





### Figure 11.2



Source: FDIC

The decline in the number of commercial banks has not necessarily brought a deterioration of banking services. Figure 11.3 shows the total number of commercial banks and the total number of branches of commercial banks operating between 1980 and 2011. Over this three-decade period, a rise in the total number of bank branches more than compensated for the decline in the number of commercial banks. This trend ran counter to the expectation that the introduction of ATMs would reduce the number of bank branches – ATMs have become ubiquitous while the number of branches has grown (Rhoades, 2000). Therefore, the expansion of the banking sector during the period of financialization was characterized by a smaller number of bigger banks operating an increasing number of branches. Commercial banking had become more concentrated at the national and regional level.





change in concentration (Wheelock, 2011). U.S. anti-trust laws treat banking markets as local in character and therefore act to limit local concentration. Competition at the local level increasingly occurs between the branches of a smaller number of regional and national banks.<sup>35</sup>



### Figure 11.3

### Source: FDIC

Deregulation of the banking sector has been a primary driver of consolidation in the industry. Until the 1990s, the U.S. maintained restrictions on the geographic expansion of banking (Rhoades, 2000) – including both intrastate and interstate mergers. In 1994, the Riegle-Neal Interstate Banking and Branching Act allowed interstate banking through national holding companies and, in 1997, interstate branch banking. Banking crises in the U.S. also led to waves of consolidation. For instance, the Savings and Loan (S&L) crisis of the 1980s and early 1990s led to bank

<sup>&</sup>lt;sup>35</sup> See Chapter 6 of this study for a fuller discussion on competition in the financial sector.





failures and mergers which were part of the general pattern of concentration (Jeon and Miller, 2002). A savings and loan institution (also called a "thrift institution") is a type of depository institution that accepts deposits and supplies mortgages and other personal loans to members. Various factors, including the interest rate shocks of the early 1980s, legislative changes deregulating the banking industry, accounting misconduct, and fraud led to the insolvency of a significant number of thrifts in the 1980s and contributed to concentration in the banking sector.

Studies of mergers in the U.S. banking industry have generally not shown improvements in efficiency post-merger, specifically in terms of operating at lower cost for a given level of activity (Paultier, 2001; Rhoades, 1993). There is some evidence that profitability increased as the banking industry became more concentrated - with indications that causality ran from increases in concentration to improvements in profitability (Jeon and Miller, 2002, Tregenna, 2009). Since the evidence for cost efficiency is weak, increases in market power and revenue mobilization provide one explanation for the improvements in profitability.

There is broad agreement that deregulation of the U.S. banking industry was a major contributor to the high levels of merger activity in the 1980s and 1990s. The Graham-Leach-Bliley (Financial Services Modernization) Act of 1999 represented a major legislative change for the financial sector. The Act removed barriers that had been set up in the 1930s between the banking sector and other financial institutions. It allowed one institution to simultaneously operate as an investment bank, a commercial bank, and/or an insurance company.<sup>36</sup> Graham-Leach-Bliley was not expected to have a significant impact on concentration within the commercial banking sector itself, but it did open the doors for commercial banks to merge with investment banks, securities companies, and insurance companies. As a result of these regulatory changes, major new financial institutions were formed in the U.S. by combining previously separate firms operating in distinct segments of the

<sup>&</sup>lt;sup>36</sup> U.S. banks had acquired non-bank financial firms prior to the 1999 legislative changes. For example, commercial banks had entered the underwriting business, brokerage services, and insurance industry prior to the more comprehensive 1999 reforms (Harjoto, Yi, and Chotigeat, 2010).





financial markets, including Citigroup (from an initial merger of Citicorp and Traveler's), J. P. Morgan Chase (from a merger of J.P. Morgan and Chase Manhattan Corporation), and Bank of America (merging over time NationsBank, BankAmerica, FleetBoston, MBNA - a credit card company, and Merrill Lynch, among others).

There are many reasons why banks would acquire non-banking financial institutions: to enhance revenues, to diversify financial activities, and to take advantage of regulatory changes. There is evidence that bank mergers with non-banks do improve revenues, but they also appear to reduce margins, producing an ambiguous impact on the bottom line (Harjoto, Yi, and Chotigeat, 2010). Management incentives may also play a role in encouraging merger activity between banks and other financial institutions. Harjoto, Yi, and Chotigeat (2010) find that the decision to acquire non-bank financial institutions significantly raises the compensation packages of top executives. Therefore, mergers between banks and non-bank institutions in the U.S. financial sector could be pursued by high-level management, even if such acquisitions produce little in the way of enhanced value for shareholders.

There were a number of failures of U.S. banks and other financial institutions associated with the 2008 financial crisis. This raises the question of the degree to which the 2008 crisis and subsequent recession facilitated concentration in the financial sector. The number of banks declined by 12 percent between the end of 2006 and the end of 2010 while the share of deposits held by the largest 10 banks increased from 44 percent to 49 percent (Wheelock, 2011). In many respects, this growth in concentration is consistent with long-run trends evident before the financial crisis, and there does not appear to be a sizeable acceleration in these trends beginning in 2008. Moreover, despite an increased number of bank failures, market concentration at the local level does not appear to have increased as a result of the crisis (Wheelock, 2011). This is an interesting pattern, since anti-trust measures to protect competition in local banking markets focus on bank mergers.





They do not focus on how bank failures could lead to an increase in market power for surviving firms.

The financing of mergers and acquisitions represents another area in which mergers and finance intersect. Mergers are typically financed with cash, equity, or some combination of cash and equity. Cash may be generated from internal resources or by borrowing. The use of debt, wholly or partly, to finance a merger is often referred to as a leveraged buyout. Since debt typically has a lower cost than equity, a leveraged buyout can increase the returns on equity relative to an equityfinanced acquisition. In the 1980s, mergers and acquisitions were primarily cashfinanced with debt playing a significant role. This was the era of hostile takeovers and leveraged buyouts. The debt issued to finance a takeover could be of very low quality - involving so-called "junk bonds." Once a firm was taken over through a leveraged buyout, it was often made private (not publicly traded) and then split up e.g. assets would be sold off or the component parts of the business would be sold separately. The value of the dismantled company could be greater than the market value of the company prior to the buyout, producing windfall gains for the investors. Proponents of the market for corporate control argue that such restructuring improves aggregate efficiency, but critics contend that the primary motivation is the short-term profits generated.

In the 1990s, equity financing became more prevalent in mergers and acquisitions and hostile takeovers became less frequent. Mergers may be entirely equity financed or financed through a combination of equity and cash. Equity financing of mergers most frequently involves an "equity swap" - the acquiring company exchanges its own stock for the stock of the target company. The gains in terms of stock prices due to the merger tend to be lower with equity financed acquisitions compared to cash-financed acquisitions (Paultier, 2001). The acquiring company has an incentive to take steps to keep its share price high when engaging in an equity-financed merger, which could result in over-optimistic expectations of future earnings or the withholding of negative information (Ge and Lennox, 2011).





Once again, efforts to maximize shareholder value - an aspect of the era of financialization - are evident in the patterns of mergers and acquisitions seen in the U.S. economy during the past three decades.





### Chapter 12. Privatization and Nationalization of the Financial Sector

The U.S. financial system has always been predominantly private. Of course, as we discuss in both Chapters 3 and 7 of this study, since the 1930s, this private-based system has also operated under regulatory supervision, with the extent of regulation varying dramatically in different eras.

At the same time, there are areas of the U.S. financial system in which the government does play a significant role in terms of public ownership or related forms of equity participation, beyond its activities in regulation and macro policy management. By far, the most important of these is through the so-called Government-Sponsored Enterprises (GSEs) including the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Association (Freddie Mac). As we have shown in Chapter 4, as of 2012, the GSE's held \$6.3 trillion in total financial assets, amounting to 9.2 percent of all U.S. financial assets. This is in addition to the "Agency and GSE backed mortgage pools," which account for another \$2.8 trillion in financial assets, or another 2.0 percent of total U.S. financial assets.

At present, the single most important feature of the GSEs' portfolio is the guarantees they provide for mortgage loans in the U.S. As we discuss below, at present, they are guaranteeing nearly 70 percent of the mortgage loans outstanding in the U.S. market. The federal government does also operate significant loan guarantee programs in the areas of business lending and agriculture. Thus, in considering the extent to which the U.S. financial system has experienced a trend toward privatization, it would be, in the first instance, through the operations of the GSEs, past and present, that we would expect such trends to appear. As we discuss below, the operations of the GSEs have undergone significant changes in recent years, though not in the direction of privatization. In fact, both Fannie and Freddie were nationalized in 2009 as one consequence of the financial crisis. At the same time, the extent to which they operated like private firms, as opposed to entities following a public purpose agenda, did increase in the years preceding the crisis. In





short, there are diverse issues to consider with respect to Fannie, Freddie and privatization.

There is another institution within the U.S. financial system that deserves notice in this discussion on public ownership and privatization. This is the Bank of North Dakota, the only state-owned bank operating today in the United States. Though this bank operates only on a relatively small scale, with total assets at nearly \$5 billion as of 2012, its achievements in recent years, especially since the financial crisis, has generated widespread attention. In particular, following the financial crisis, discussions have been taking place in several other states as to whether the North Dakota bank offers a model on which they could also build.

#### Fannie Mae and Freddie Mac

Beginning with the establishment of the Farm Credit System in 1916, the U.S. federal government has created a range of Government Sponsored Enterprises. These are privately owned enterprises. But they were established through federal government initiatives. They also have both public missions and formal public charters. In general, their purpose has been to create more favorable conditions in credit markets in three areas considered to have high social value-agriculture, education and housing finance. These institutions specialize in providing direct loans, loan guarantees or maintaining a liquid secondary market for outstanding loans in these three areas, in order to make credit more accessible and affordable for borrowers. The Farm Credit System offers a range of financial services, including loans directly to farmers as well as to agricultural cooperatives and banks. It remains in operation, with assets of \$230 billion as of 2012. In the area of student loans, the government established the Student Loan Marketing Association in 1972. It began a process of privatization in 1997, and it was fully privatized by 2004. At the same time, the federal government expanded its direct student loan lending program in 2010 while eliminating its loan guarantees.

The Federal Home Loan Banking system was the first such institution to be created in the area of housing, in 1932. It provides loans to financial institutions that





provide housing credit. Its total assets as of 2012 were \$750 billion. Fannie Mae and Freddie Mac are the two most significant GSEs in the area of housing finance. Fannie was established in 1938 and Freddie Mac in 1970. Here is how their mission is described in a 2010 report from the U.S. Congressional Budget Office:

The two GSEs were created to provide a stable source of funding for residential mortgages across the country, including loans on housing for lowand moderate-income families. Fannie Mae and Freddie Mac carry out that mission through their operations in the secondary mortgage market. They purchase mortgages that meet certain standards from banks and other originators, pool those loans into mortgage-backed securities that they guarantee against losses from defaults on the underlying mortgages, and sell the securities to investors—a process referred to as securities...to hold in their portfolios. They fund those portfolio holdings by issuing debt obligations, known as agency securities, which are sold to investors (p. viii).

There has always been a substantial degree of ambiguity and tension as to the boundaries between the public and private purposes of Fannie and Freddie. Prior to 2008, they had both been primarily privately-owned firms.<sup>37</sup> At the same time, they were both established by federal government initiatives. As such, they operated under distinct regulatory standards and received special benefits. In terms of regulations, the GSEs were not permitted to originate loans, but only to operate within the secondary market. In terms of their secondary market operations, they were only permitted to trade and securitize standardized, or "conforming" loans. Conforming loans had to be limited in size, and they had to meet a set of prudential standards, as regards the borrowers' credit rating, documentation of income, and size of down payment.

<sup>&</sup>lt;sup>37</sup> However, Fannie has operated at times as a mixed ownership corporation. For details on the changing ownership structure of Fannie, see DiVinti (2009).



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The benefits the GSEs received included being exempt from having register their securities with the Securities and Exchange Commission and from paying state and local corporate income taxes. They also had a line of credit with the U.S. Treasury. But their most important benefit was implicit. Though Fannie and Freddie's debt securities were not officially backed by the federal government, there was a widespread perception in financial markets that, in fact, the government would not allow a default on these obligations. Because of this perception, Fannie and Freddie could borrow to fund their portfolio holdings at much lower interest rates than paid by the fully private intermediaries. The benefits of Fannie and Freddie having preferential access to credit market was supposed to accrue, at least in large measure, to mortgage borrowers in the form of greater availability of credit and somewhat lower interest rates. There are different perspectives as to how well this worked (e.g. An et al. 2007, Thomas and Van Order 2011). But it is not in dispute that a significant part of the gains were received by the owners and managers of Freddie and Fannie. As the CBO study concludes, "The advantage of implicit federal support allowed Fannie Mae and Freddie Mac to grow rapidly and dominate the secondary market for the types of mortgages they were permitted to buy. In turn, the perception that the GSEs had become "too big to fail" reinforced the idea that they were federally protected," (2010, p. xiii).

### The Role of Fannie and Freddie in the Financial Crisis

Because of the central role that the GSEs play in the U.S. housing finance industry, it is necessarily the case that, in some way, they were significant actors during the housing bubble in the mid-2000s and in the subsequent financial crisis. The challenge is to understand the most important channels through which the GSEs were connected to the bubble and crisis. Several commentators have argued that the GSEs were themselves primary factors causing the bubble and crash. But that position has also been widely disputed. We review here this debate, and also consider the issues in relationship to the broader question of privatization and nationalization within the U.S. financial sector.





The two most extensive statements arguing that the GSEs were the major cause of the financial crisis were by Edward Pinto, who had been an official of Fannie Mae from 1985-89, and Peter Wallison, who was a member of the official U.S. Financial Crisis Inquiry Commission (FCIC). In his memorandum to the FCIC stuff, Pinto argues that the crisis can be explained by the long-term decline in lending standards by Fannie Mae and Freddie Mac. Freddie and Fannie's general position was then pushed further by the Clinton Administration in the late 1990s forcing financial institutions to comply with the terms of a law called the Community Reinvestment Act (CRA). The CRA requires that banks demonstrate a commitment to making affordable credit available to members of low-income households, particularly those households that are physically within the same broad communities as the banks.

In a summary of his dissenting opinion within the Financial Crisis Inquiry Commission, Wallison argued that as early as 1999, the Clinton administration began exerting pressure on Fannie and Freddie to increase lending to minorities and lowincome home buyers. As Wallison writes, "The regulators in both the Clinton and Bush administrations were the enforcers of the reduced lending standards that were essential to the growth in home ownership and the housing bubble." There are two key examples of this misguided government policy. One is the Community Reinvestment Act (CRA). The other is the affordable housing "mission" that the government sponsored enterprises Fannie Mae and Freddie Mac were charged with fulfilling (2009, p. 2).

Pinto further develops this position, writing in a memo to the FCIC that:

I believe that the financial crisis had a single major cause: the accumulation of an unprecedented number of weak mortgages in the U.S. financial system. When these mortgages began to default, they caused the collapse of the worldwide market for mortgage backed securities (MBS), which in turn caused the instability and insolvency of financial institutions that we call the financial crisis. In this context, the "triggers" were those policies and actions that led to the accumulation of so many weak mortgages in our





financial system. In this memorandum, I will identify the triggers and show how they eventually caused the collapse of the MBS and asset-backed market. I will also demonstrate how federal policies were directly responsible for mandating a vast increase in homeowner leverage (low or no down payments), setting extremely high leverage levels for Fannie and Freddie, and requiring flexible underwriting standards throughout virtually entire mortgage finance industry (2010, p. 1).

The most extensive research reaching conclusions contrary to Wallison and Pinto has been produced by economists at the Federal Reserve. Thus, in 2011, Fed economists Avery and Brevoort examined whether institutions operating neighborhoods that had been disproportionately served by CRA-covered institutions experienced worse outcomes in terms of loan delinquency rates and measures of loan quality. This approach relied on the fact that not all mortgage lenders were subject to the CRA lending requirements. This created a quasi-natural experiment of the effects of the CRA itself on lending standards. Avery and Brevoort also took advantage of the fact that both the CRA and GSE lending guidelines rely on hard geographic rules that were fixed for most of the previous decade. These regulations favor loans made to borrowers in geographic areas where the median family income is below a fixed threshold. Avery and Brevoort argue that if these regulations provided an incentive for-or perhaps even required-loans to be made that otherwise would not have been granted, then one might expect loans in the favored neighborhoods to perform worse, all else equal, than loans made in averages that were not made by these regulations. As a result of these econometric tests, Avery and Brevoort conclude as follows:

It is not hard to see why the CRA and GSE affordable housing goals are raised as causes or contributors to the subprime crisis. Both regulations favor lending to borrowers in lower-income census tracts which accounted for a disproportionate share of the growth in lending during the subprime buildup, a disproportionate share of higher-priced, piggyback, no-income, and

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high-PTI lending, and elevated mortgage delinquency rates. However, a more nuanced look at the data, as conducted in this paper, suggests that this superficial association may be misleading. Using a variety of indirect tests, we find little evidence to support the view that either the CRA or the GSE goals caused excessive or less prudent lending than otherwise would have taken place. (2011, p. 26).

Conclusions similar to those reached by Avery and Brevoort were also found by Bolotnyy (2012), another Federal Reserve economist, and by Thomas and Van Order (2011) of George Washington University.

From these studies, one can conclude that it was not the specific lending policies by the GSEs that led to the bubble and crash in the subprime mortgage market. It was rather the shift into excessively risky lending practices by the broader set of private institutions, permitted by the decline in financial regulatory standards, that created the bubble and crash, as we have discussed elsewhere in this report.

Nevertheless, it is true that Fannie Mae and Freddie Mac did themselves expand their purchases of higher-risk loans in the secondary market. As such, Fannie and Freddie were not leaders in expanding the market in subprime lending, but they did participate as followers in this market activity. Had Fannie and Freddie assumed a strong oppositional stance against the rise of more risky lending practices being pursued by other private lenders, this could have at least served as a strong signal to the overall financial market and the relevant regulators that private institutions were engaging in practices that were becoming increasingly dangerous. By not doing so, the GSEs were at minimum helping to confer legitimacy on these practices to the entire global investment community. In this sense, Fannie and Freddie could be seen as *promoting privatization of the secondary mortgage market*, by endorsing the private market's narrow pursuit of profit, even at the cost of ever higher levels of risk. In so doing, the GSEs were not upholding the more prudent lending standards established in their charters. These more clearly defined standards were designed precisely to reflect the public purpose for these institutions, and were consistent





with the benefits under which they operate relative to the private institutions in the market that had no public purpose charter.

### Nationalization of Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac were nationalized in September 2008, just prior to the collapse of Lehman Brothers, and while George Bush was still in office. The then Treasury Secretary Henry Paulson initially viewed nationalization as a shortterm measure. But as of February 2013, it is still not clear when and in what ways the status of Fannie and Freddie may change.

A major consideration here is that, in fact, virtually the entire U.S. home mortgage market is nationalized. Fannie and Freddie guaranteed 69 percent of new mortgages in the first three quarters of 2012, up from about 27 percent in 2006. Meanwhile, other federal government agencies were guaranteeing another 21 percent of all mortgages, up from 2.8 percent in 2006. Overall then, the U.S. government, led by Fannie and Freddie, was backing 90 percent of all home mortgages in 2012. In 2006, prior to the onset of the crisis, this figure was 30 percent (Eisinger 2012).

This is despite the fact that nationalization has never been an explicit goal of U.S. housing policy. Nor is there clarity as to what the purpose should be of a nationalized system—i.e. whether it should operate strictly according to public purpose aims, such as making housing affordable or promoting stability in the housing finance market; or return to a hybrid public/private set of purposes, as was true with the GSEs prior to the financial crisis. As of December, 2012, the discussions within the Obama administration and elsewhere in the federal government focused around three options, as described by Eisenger:

*Option 1*: Largely privatize the market, unwind Fannie and Freddie and remove the government almost completely from the housing finance market.

*Option 2*: Provide some form of government guarantee for mortgages only in times of crisis.

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*Option 3*: Restore Fannie and Freddie much as they were before the crisis, though with significant protections for taxpayers and with measures to attract private capital into the market.

Eisinger reports that the option most likely to prevail over time is Option 3, i.e. to return to some form of hybrid public/private system. It is not surprising that there is no support in official government circles for maintaining, much less strengthening, the current nationalized system. It is more surprising that there is also virtually no support for creating a fully privatized housing finance system in the U.S. This is apparently true even among Republicans. Susan Woodward, who was Chief Economist in the U.S. Department of Housing and Urban Development, expressed what appears to be a prevalent position even among a high proportion of Republicans: "Profit-seeking is what gets banks and financial institutions into trouble. The government can get into trouble too, but it seems it gets into less trouble. It's very hard for government to do something that hurts consumers," (Eisinger 2012).

### State-Owned Banks

The Bank of North Dakota (BND) is the only state-owned bank operating in the United States at present. However, state-owned banks had been common in the U.S. during the 19<sup>th</sup> century. The idea of reviving state-owned banks has arisen periodically over the 20<sup>th</sup> and 21<sup>st</sup> centuries in response to various economic and financial crises. Since the 2008-09 crisis in particular, policymakers in 17 states have introduced legislation aimed at replicating the model of the Bank of North Dakota. These states have included California, Illinois, Louisiana, Hawaii, Maine, Maryland, Massachusetts, Oregon, Vermont and Washington.

The Bank of North Dakota was founded in 1919 in a period of economic hardship in the state. In the early 1900s, most North Dakotans made their living from agriculture. However, most of the available credit facilities were based outside the state, in Minneapolis, Chicago, in New York. The North Dakota farmers believed that out-of-state financiers were providing insufficient credit and charging excessive





rates. The formation of the Bank of North Dakota emerged out of a political movement to support the interests of the state's farmers.

The express mission of the Bank of North Dakota is to "promoting agriculture, commerce and industry," in the state. Its main specific activities, as described by a recent article in *The Bond Buyer*, are as follows:

BND acts as a mini reserve bank for the state's banking industry and serves the functions of a bankers' bank, a wholesale bank that provides participation loans made with community banks to small businesses, homebuyers, farmers and students....The loans help increase private banks' lending power, because the state bank can also purchase part or all of a loan after it has been issued, which helps a private bank stay within its capital requirements.....Although the bank's charter permits it to provide retail bank services, it typically does not. (Webster, 2012).

The most detailed recent study of the Bank of North Dakota was published by the Federal Reserve Bank of Boston in 2011(Kodrzycki and Elmatad 2011). This study provides a highly favorable assessment of the recent operations of the Bank. Among its findings are these:

1. In financing projects that foster economic development in North Dakota, BND puts strong emphasis on safe and sound lending practices. They have left to other state agencies to engage in potentially riskier activities, such as community development funding and equity investments.

2. BND partners with community banks in North Dakota for much of its lending. Community banks originate the loans and BND either participates in the loans or purchases them from the originators. The existence of BND likely enhances the viability of small banks in North Dakota. By partnering with BND, they can make loans that exceed their legal or internal lending limits.

3. During the financial crisis of 2007-09, BND increased its loans and letters of credit to North Dakota banks that needed to develop comprehensive liquidity





plans. However, BND signaled that its ability to serve as a state-wide lender of last resort was limited.

4. The State of North Dakota has sometimes used revenues from the Bank of North Dakota to help balance its budget given shortfalls from other sources, though such revenues have generally been significant, if relatively modest. Over the past decade, the BND has transferred \$300 million to the state treasury. This is in a state whose overall annual budget is \$4.1 billion in 2012-13. At the same time, the Boston Fed study cautions that "there is no guarantee that a state-owned bank will generate profits during periods of financial stress....BND's poor performance during North Dakota's severe agricultural crisis and recession of the 1980s exacerbated the state's financial crisis," (2011, p. 4).

The Boston Fed study is non-committal on whether the BND offers a viable model for Massachusetts. Other reports, discussing the situations in Massachusetts as well as other states, are clearly supportive of the idea, seeing the BND as an effective vehicle for promoting both broadly-shared economic growth and financial stability (Center for State Innovation 2013). Moreover, proponents of the idea see such a public banking model as a complement to private banking institutions, by serving as a partner for loans and establishing more effective standards for prudential financial practices.

It is not evident whether such broadly held enthusiasm for the BND model will lead to the establishment of new institutions in other states. At the least, what is clear is that the direction of the policy discussions around these matters is trending in favor of more publicly-owned institutions. There does not appear any widespread support in favor of privatizing the Bank of North Dakota. Nor has strong opposition emerged to the idea of creating other state-owned banks on the principle itself that financial institutions should only be operated by private owners serving private purposes only.





## Chapter 13. Profitability of Financial Sector and Proximate Causes of Changes in Profitability

One approach to defining the process of financialization is in terms of a regime of accumulation in which financial profits account for an increasing portion of total profits (e.g. Arrighi, 1994). This framework is described by Krippner (2005) who defines "financialization as a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production" (p. 174). Although we adopt a broader approach to issues of financialization in this study, it is still critical to examine trends with regard to profits from financial activity.

A number of challenges present themselves when documenting trends in profits from financial activities. For instance, one approach would be to define financial profits on a sectoral basis, measured as the profits of financial firms and nonfinancial firms. The difficulty here is that non-financial firms may engage in financial activities which generate profits. Similarly, financial firms may have divisions whose activities may be closer to those of non-financial firms (e.g. business consulting) than purely financial activities. Parsing out profits from financial activities and nonfinancial activities within a set of firms is extremely difficult, given the limitations of available data. An alternative would be to measure profits or revenues that can be specifically attributed to financial investments – such as interest payments received, dividends received, and realized capital gains. For the purposes of this section, we look at financial profits defined in terms of sector (financial v. non-financial) and in terms of financial investments (regardless of whether a firm is classified as financial or non-financial).

The data used to trace trends in financial profits in the U.S. come from two main sources: the *Flow of Funds Accounts* of the Federal Reserve Board of Governors and *Statistics of Income* from the U.S. Internal Revenue Service, which is based on reported income on corporate tax returns. An alternative source of information on financial profits, defined on a sectoral basis, is the U.S. Bureau of Economic Analysis





(BEA) data on corporate profits by industrial sector. These data are based on the U.S. system of national accounts, the National Income and Product Accounts. The BEA data would allow us to examine profits for finance, insurance, and real estate (FIRE) as an industrial cluster. We chose not to include the BEA data in this discussion because the industrial sectors had been redefined over the period we are examining and there are breaks in the series (e.g. in 1998) which could affect the documentation of trends.<sup>38</sup>

We begin with a look at profits defined on a sectoral basis – trends in financial and non-financial profits. Figure 13.1 shows the real dollar value (\$2005) of financial and non-financial profits for U.S. corporations using data from the *Flow of Funds Accounts* over the period 1960 to 2011. Throughout this period, profits of nonfinancial corporations exceed profits of financial corporations. Financial profits begin to increase in the 1980s, during the period of financialization, and show a noticeable acceleration in the rate of growth from 2001 to 2007, immediately before the meltdown of U.S. financial markets in 2008. However, profits of non-financial corporations also show significant growth during this period. Non-financial profits exhibited a localized peak in the 1990s, followed by a collapse around the 2001 recession, and then a very sharp recovery leading up to the 2008 financial crisis. Interestingly, the 2001 recession appears to have had a bigger impact on the profits of non-financial corporations than financial corporations.

<sup>38</sup> Specifically, there was a switch from the Standard Industrial Classification (SIC) system to the North American Industrial Classification System (NAICS). Early years use the SIC system and later years use NAICS.





### Figure 13.1



Source: Flow of Funds Accounts.

Researchers have shown an increase in the share of profits earned by firms in the financial sector relative to companies operating in other parts of the economy – particularly in the 1980s (Krippner, 2005). The Flow of Funds data show a similar increase in financial corporation's share of total corporate profits during the 1980s (Figure 13.2). Profits of financial corporations increase from a low point of about 6 percent of total corporate profits in 1982 to 27 percent of corporate profits in 1992. In the 1990s and the 2000s, financial profits as a share of total corporate profits showed no clear upward trend, with financial profits averaging 21 percent of corporate profits over the period 1991 to 2011. However, during these last two decades, financial profits as a share of total corporate profits as a share of volatility. This indicates that financial profits were significantly more variable than non-financial profits over this period.




## Figure 13.2



Source: Flow of Funds Accounts.

An alternative way to examine trends in financial profits is in terms of income generated from financial investments. We look at three categories of income from financial investment here: interest, dividends, and realized capital gains. Studies have shown that these three sources of income have increased as a share of corporate cash flow since the 1970s, with particularly pronounced growth in the 1980s (Krippner, 2005). Focusing on sources of income of non-financial firms, Orhangazi (2006) finds that interest and dividends received, expressed as a share of the fixed capital stock, increased during the 1980s, although the same upward trends does not appear to have extended into the 1990s.

Figure 13.3 shows trends in interest received, dividends received, and net income from realized capital gains as reported on U.S. corporate income tax returns over





the period 1978 to 2009.<sup>39</sup> Income from these sources is expressed as a percentage of total business receipts (i.e. revenues). All data come from the *Statistics of Income* of the U.S. Internal Revenue Service. Here we find a similar trend to that presented by other researchers. There is a large increase of income from financial investments relative to total receipts for U.S. corporations in the 1980s. However, in the 1990s and 2000s, the upward trend is no longer evident. Instead we see a great deal of fluctuation in the share of financial investment income in total receipts. Again this would suggest that income from financial sources is much more volatile than corporate revenues from other activities.

## Figure 13.3



Source: Statistics of Income, U.S. Internal Revenue Service.

<sup>&</sup>lt;sup>39</sup> There is a delay in the release of data from the *Statistics of Income*, based on U.S. tax return information. At the time of writing, 2009 was the most recent year available.





Income from interest payments dominates the three categories of income from financial investments examined here. As we see in Figure 13.4, on average over the period 2000 to 2009, realized capital gains and dividends account for just 15 percent of the total reported income from interest, dividends, and net capital gains. It is also important to recognize that, since these data are based on corporate income tax returns, it only represents reported data. To the extent that income from financial investments is not reported in U.S. corporate income tax filings, it will not be reflected in these measurements.

## Figure 13.4



Source: Statistics of Income, U.S. Internal Revenue Service.

In summary, trends in financial profits appear to show noticeable growth in the 1980s, regardless of how financial profits are measured. However, in the 1990s and





2000s, financial profits did not show any clear growth, relative to other sources of revenues or profits (e.g. non-financial profits or total corporate revenues). Instead, this later period appears to be characterized by significant volatility in corporate profits from financial sources.





## Chapter 14. Households, Financialization and Inequality

#### I. Households, Debt, and Financialization

One of the most notable trends affecting the balance sheet of U.S. households during the period of financialization has been the rapid expansion of debt relative to household income, most notably since the early 1980s. As we show in Figure 14.1, during the 1960s and 1970s, household debt averaged 65 percent of household personal deposable income, growing modestly to 70 percent by 1980. Afterwards, household debt expanded rapidly, reaching a peak of 132 percent of personal disposable income by 2007. During the subsequent financial crisis, the levels of household debt relative to disposable income declined slightly, reflecting a process of 'deleveraging' - i.e. paying off previously accumulated debt.<sup>40</sup>



## Figure 14.1

<sup>&</sup>lt;sup>40</sup> We discuss the rising trend of household debt relative to income from somewhat different perspectives in Chapters 16 and 17.





The pattern of household debt accumulation in the U.S. cannot be explained simply by more rapid growth in borrowing. The annualized growth rate of the real stock of debt, adjusted for inflation using the consumer price index, over the period 1961 to 1979 was 4.8 percent. Over the period of financialization, before deleveraging, 1980 to 2007, the annualized growth rate of real debt averaged 5.2 percent - growth was faster, but not sufficiently so to explain the observed trends of household debt relative to income.<sup>41</sup> What made the period of financialization distinct from the earlier period was the fact that the growth of real household incomes slowed without a similar decline in the growth of debt. The annualized growth of real household incomes was 3.7 percent from 1960 to 1979, but only 2.7 percent from 1980 to 2007. Many have argued that these two trends are interrelated - stagnant real wages and slower growth of incomes encouraged greater borrowing by households to finance consumption (Barba and Pivetti, 2009; Pollin, 1990; Rajan, 2010; Reich, 2010).

The differences in the growth rates of household debt and household income, and how these growth rates have changed over time, have important implications for theories of household borrowing. For example, some neoclassical consumption theories (e.g. models involving intertemporal utility maximization over long time periods) explain the increase in household debt relative to income beginning in the 1980s in terms of welfare-maximizing decisions taken after credit markets had been deregulated (Barba and Pivetti, 2009). According to these neoclassical approaches, households were underleveraged - i.e. borrowing too little - prior to deregulation because regulations distorted credit markets and prevented households from taking on an optimal level of debt. In this context, deregulation would have allowed U.S. households to increase borrowing relative to income with the higher levels of debt being associated with improvements in welfare. These same theories would predict that rational households would take into account changes in the growth rate of

<sup>&</sup>lt;sup>41</sup> Real debt stocks and growth rates were calculated from the Federal Reserve's Flow of Funds Accounts using the consumer price index (CPI-U) compiled by the U.S. Bureau of Labor Statistics.





incomes and adjust borrowing accordingly. Slower income growth should reduce borrowing.

As we have seen, the growth rate of borrowing did rise slightly during the period of financialization, when credit markets were liberalized. However, it was the combination of a modest increase in the accumulation of debt and a significant slowdown in income growth which led to the higher levels of indebtedness of U.S. households - the drop in the growth rate of real income was larger than the increase in the growth rate of debt. In the neoclassical framework, we would expect that the decline in income growth would have had a more noticeable negative effect on the expansion of debt than it actually did.<sup>42</sup> Of course, one could argue that, due to financial liberalization, borrowing would have been higher still if income growth had not slackened off. But this would suggest that the stock of debt would have been increasing at very rapid rates - i.e. well above the 5.2 percent observed over the two and a half decades since the early 1980s. This raises questions about the neoclassical interpretation of the rise of household debt. Alternative explanations of the growth in household indebtedness suggest that the slower growth rate of incomes encouraged greater borrowing as households attempted to maintain their living standard (Pollin 1990, Barba and Pivetti, 2009). As we will discuss later, increased income inequality also contributed to rising debt burdens, as early research by Pollin (1990) had suggested.

The growth of household debt is not simply a demand-side phenomenon, with households demanding more credit in the face of pressures on living standards. Beginning in the early 1980s up until around 2007-8, at the beginning of the recession and financial crisis, the supply of credit and liquidity increased in the U.S. economy. The widespread availability of credit helped support consumption expenditures and reduce savings in the U.S. economy. For example, research on

<sup>&</sup>lt;sup>42</sup> Neoclassical theory would predict that debt would growth in response to short-run, transitory shocks to income, as households use credit to smooth consumption over time. However, within these models, debt should not respond positively to a long-run decline in the rate of growth of household income.





mortgage lending using zip-code level data showed a significant increase in credit being supplied to communities and neighborhoods with a large share of subprime borrowers, despite declining relative income growth (Mian and Sufi, 2009). Therefore, the build-up of household debt in the U.S. can be seen as an interaction between growing demand and a readily available supply of credit.



## Figure 14.2

In the U.S., the two major categories of household credit market debt are home mortgages and consumer credit. As Figure 14.2 shows, the expansion of household debt relative to income in the period of financialization was largely driven by increases in mortgage debt. In the early 1960s, levels of mortgage debt were about 40 percent of disposable income and consumer credit was approximately 17 to 18 percent of disposable income. In 1980, mortgage debt had grown to 46 percent of disposable income credit at the same level as in the early 1960s - 18





percent of disposable income. By 2007, mortgage debt had grown to over 100 percent and consumer credit to 25 percent of disposable income. The deleveraging of households after the 2008 financial crisis has been evident with regard to both mortgage debt and consumer credit.



## Figure 14.3

The difference in the relative growth rates of mortgage debt and consumer credit led to a shift in the composition of household debt with mortgages accounting for a growing share of total debt (Figure 14.3). By 2011, mortgage debt accounted for three-quarters of all household debt. However, the division between the categories of 'mortgage debt' and 'consumer credit' has been blurred by the growth of home equity loans in the U.S. Home equity loans are secured by a mortgage, often a second mortgage, and allow consumers to borrow against the equity they have in their homes. A home equity loan can be used for a wide range of expenditures and is





not restricted to the acquisition of real estate or investments in home improvements. Therefore, home equity loans can substitute for consumer credit. Such substitution is encouraged by federal tax laws which allow the interest on home equity loans to be deducted from income for the purposes of determining federal tax liabilities.<sup>43</sup> Such favorable tax treatment effectively subsidies home equity loans relative to forms of consumer credit.

Figure 14.4 shows the growth rate of home equity loans and all real estate loans of U.S. commercial banks from 1990 to 2011. In many years, the growth rate of home equity loans exceeds the growth rate of all mortgages by a significant amount. The growth of home equity loans was particularly robust during the period 2000-2004, when annual growth rates ranged between 20 and 40 percent. According to the Federal Deposit Insurance Corporation (FDIC), by December 31, 2011, 24 percent of the value of all family residential mortgages extended by depository institutions was in home equity loans.<sup>44</sup> Since the 1990s there appears to be a negative correlation between home equity loans and the personal savings rate and there is some evidence that home equity loans have had a significant positive effect on consumer spending and a negative effect on savings rates in the U.S. (Klyuev and Mills, 2006; Congressional Budget Office, 2007). Home equity lending featured prominently in the U.S. subprime mortgage crisis. One study estimates the 39 percent of new mortgage defaults observed from 2006 to 2008 were due to existing homeowners borrowing against their home equity in the context of rapidly increasing housing prices (Mian and Sufi, 2011).

<sup>&</sup>lt;sup>43</sup> There are limits to the total amount of home equity loans which is eligible for interest rate deductions. In 2011, only interest paid on the first \$100,000 in home equity loans can be deducted for tax purposes.

<sup>&</sup>lt;sup>44</sup> It is important to keep in mind that U.S. mortgages can also originate outside of the banking sector, so the mortgages held by the commercial banks or depository institutions represent a fraction of the total mortgages outstanding.





# Figure 14.4



Consumer credit has increased modestly in contrast to mortgage debt. According to the Federal Reserve Bank of New York, the three largest categories of consumer credit in the U.S. are student loans, credit card debt, and automobile loans (FRBNY, 2011). New measurements of consumer credit from the New York Federal Reserve Bank show that student loans currently represent the largest category of nonmortgage household debts. Rapidly increasing costs of tertiary education in the U.S. has led to the expansion of student loans in order to cover tuition, fees, and other university-related expenses. This could be interpreted as a process of financialization of U.S. higher education in which access to a college or university degree is increasingly mediated by credit agreements.

The value of assets of the household sector had grown with the accumulation of debt and the total net worth of U.S. households has expanded over time - i.e. in the aggregate households have become wealthier. Figure 14.5 shows the trend in total





real net worth per U.S. household from 1960 to 2011. The average level of household net worth ranged fairly narrowly from 1960 to the early 1980s, between \$268,000 and \$350,000, with the figure at \$308,000 as of 1982. From the mid-1980s, average household net worth begins rising steadily, and then begins a sharp ascent in the mid-1990s. It falls during the 2001 recession briefly, but then continues its upward trend until just prior to the 2007 financial crisis, with the peak level of average net worth being 2006, at \$635,000. Net worth then falls sharply due to the financial crisis (as we also discuss in Chapter 16). The figure for 2011 was \$492,000. This figure is 23 percent below the 2006 peak figure. But it is still also 60 percent higher than 1982 and 24 percent higher than 1995.

#### Figure 14.5



Rising prices of both non-financial (real estate) and financial assets of households produce this trend increase in net worth, despite the fact that





households were also accumulating increasing levels of debt. Indeed, there is evidence that increases in house prices help explain the growth in household debt in the U.S. (Dynan and Kohn, 2007; Mian and Sufi, 2011). Nevertheless, all of this represents an aggregate picture. As we will see in the next section, these changes in net wealth were distributed in a highly unequal pattern.



#### Figure 14.6

Figure 14.6 shows the share of the value of total assets of the household sector by three categories: real estate, financial assets, and other non-financial assets. The shares of each of these three categories of household assets have been remarkably constant since the 1960s. On the asset side, there appears to be no systematic financialization of assets in the sense that the share of financial assets in total household assets has not risen systematically over time. However, once again, we must keep in mind that these trends are based on aggregate figures. In the U.S.,





ownership of assets, particularly financial assets, is highly concentrated. Therefore, we need to take into account issues of distribution and inequality when considering the relationship between financialization and the household sector.

#### II. Household Debt, Household Wealth and Inequality

Asset ownership and household debt holdings are unequally distributed. An analysis of household debt and wealth based only on aggregates or averages across households can therefore easily be misleading. The debt-to-income ratio varies across the income distribution. Table 14.1 shows median before-tax family income, median debt holdings, and the ratio of debt to before-tax income by income percentile, based on data from the *2007 Survey of Consumer Finances*. Note that the median debt holdings only apply to families which hold some kind of debt (i.e. families with zero debt are not included). The debt to income ratio exhibits an inverse "U" shape across the income distribution. The ratio is smallest for the poorest 20 percent of families. It then rises as families become wealthier, peaking at 137 percent for families in the fourth quintile of the income distribution - families which would probably be considered 'middle-class' or at the lower edge of 'upper middle-class' in the U.S. context. The debt to income ratio falls for families in the top 20 percent of the income distribution. For the richest 10 percent of families, the ratio of debt to before tax income is 111 percent.<sup>45</sup>

<sup>&</sup>lt;sup>45</sup> Wolff (2010) calculates the debt to income ratio based on the distribution of gross assets. According to his calculations, the top 1 percent of households, ranked by assets, has a debt-toincome ratio of 39.4 percent.





	Median before tax		Debt % of before tax
	income Median family debt		income
Percentile of income	(\$2	007)	(percent)
Bottom 20 percent	\$12,000	\$7,000	58%
Second quintile	\$28,800	\$17,600	61%
Third quintile	\$47,300	\$48,800	103%
Fourth quintile	\$75,100	\$102,600	137%
Second highest decile	\$114,000	\$149,400	131%
Top 10 percent	\$206,900	\$229,500	111%

Table 14.1. Median Family Income and Debt Holdings by Income Percentile, 2007

Source: Federal Reserve, 2009.

Access to credit, not only average debt holdings, also varies by income class. In 2007, just over half (51.7 percent) of all families in the bottom 20 percent of the income distribution had any debt and only 16 percent of families in the bottom 20 percent had debt which is secured by their homes. Consumer credit, in the form of credit card debt and installment loans (primarily student loans and automobile loans), accounts for the largest share of debt for this income group. In contrast, in the middle of the income distribution (the third quintile), 83.8 percent of families have some form of debt and 50.5 percent have debt which is secured by their homes. The affordability of debt also varies with income - with costs of debt service being significantly higher for lower income families. Although families in the bottom 20 percent of the income distribution have the lowest median debt-to-income ratios, annual debt payments account for 19 percent of family income on average. For families in the top 10 percent of the income distribution, with much higher debt-to-income ratios, debt payments account for just 12.5 percent of family income (Federal Reserve, 2009).

Indicators of wealth net of outstanding debt, such as net worth, show that assets are very unequally distributed in the United States. Table 14.2 shows the distribution of two measurements of wealth - net worth (total assets minus total liabilities) and non-home wealth (net worth less the equity in a home). The latter measurement is





meant to provide an indication of liquid assets (i.e. assets which could be quickly used to meet unexpected emergencies) relative to household liabilities (see Wolff, 2010). For households in the bottom 40 percent of the wealth distribution, net worth is close to zero and non-home wealth is actually negative (i.e. liabilities exceed the value of assets if we exclude the equity households have in their own homes). The top 20 percent of the wealth distribution account for over half of all net worth, and the top 1 percent of households account for 42.7 percent of non-home wealth.

	Net Worth	Non-home Wealth
Bottom 40		
percent	0.2%	-1.0%
Third quintile	4.0%	1.3%
Fourth quintile	10.9%	6.8%
Top 20 percent		
(excluding top 1%)	50.4%	50.3%
Top 1%	34.6%	42.7%
TOTAL	100%	100%

 Table 14.2. Share of Wealth (percent) by Percentile, 2007

Source: Wolff (2010).

Note: Percentiles based on a ranking of net worth for the shares of total net worth and on a ranking of non-home wealth for the shares of non-home wealth.

Table 14.3 shows the composition of household wealth by type of asset, and according to households' overall level of wealth. As the table shows, financial assets account for a much higher share of the total assets of the richest households. For other households, non-financial assets account for a larger share of wealth. For households in the middle of the wealth distribution (the middle three quintiles, i.e. the 2nd, 3rd, and 4th 20 percent of the income distribution), the primary residence accounts for two-thirds of the value of gross assets. With regard to financial assets,





liquid assets - which include savings and checking accounts - and pension funds are the two most significant categories. The contrast with the top 1 percent is dramatic. The primary residence only accounts for 10 percent of all assets on average. The vast majority of assets are comprised of an assortment of financial and non-financial investments: equities, other securities, mutual funds, other business equity, and real estate investments. This suggests that changes in the value of financial assets will have very different effects on households, depending on where they are in the wealth distribution. In other words, processes of financialization will affect income distribution, wealth inequalities, and the dynamics of household debt.

Table 14.3.	Composition	of	household	wealth	by	type	of	asset	(percent	of
gross assets), 2	2007									

	All	Middle 3	Top 1
	households	Quintiles	Percent
Principal			
residence	32.8%	65.1%	10.2%
Liquid assets	6.6%	7.8%	4.5%
Pensions	12.1%	12.9%	5.8%
Corporate			
equity, securities,			
mutual funds, and			
trusts	15.5%	3.6%	25.2%
Other business			
equity and real			
estate	31.3%	9.3%	52.3%
Other assets	1.7%	1.3%	2.0%
TOTAL	100%	100%	100%

Source: Wolff (2010).





#### III. Financialization, household debt and income inequality

The period of financialization in the U.S., beginning in the 1980s, has been associated with a significant expansion of income inequality, returning income inequality to levels last seen in the years preceding the Great Depression (Picketty and Saez, 2006; McCall and Percheski, 2010; Wolff, 2010). The growth of income inequality has a number of dimensions, with income from employment being particularly critical. The gap between individuals enjoying high-end salaries and those receiving low-end wages has widened significantly over this period (Picketty and Saez, 2006). The dynamics of the U.S. economy have produced an increasingly skewed distribution of income, with the wealthiest households enjoying the largest share of the benefits of real economic growth and the expansion of financial activities. This raises a number of questions about the relationship between financialization and inequality. How do increases in income inequality contribute to the process of financialization? How has the process of financialization affected the income distribution in the United States?

There is general agreement that income inequality has increased in recent decades. However, the extent of the expansion in inequality, and its timing, have been subject to debate (Burkhauser et al., 2009). For example, research by Piketty and Saez (2006, 2003) suggests that income inequality expanded significantly through the 1990s, while others have found that growth of income inequality slowed during the boom years of the 1990s (e.g. Gottschalk and Danziger, 2005).

The divergent findings are explained, in part, by the use of different data sources: survey data on incomes from the Current Population Survey and income data from tax returns (Burkhauser et al., 2009). Survey data are considered limited because of top-coding (i.e. placing an upper limit on reported income) and under-reporting. Because of this, they fail to adequately capture income inequality driven by increases in the incomes of those in the very top of the distribution. In the U.S. context, this source of income inequality is not trivial - Atkinson, Piketty, and Saez (2011) show, using tax data, that the top 1 percent of the income distribution captured 58 percent





of the increase in incomes from 1976 to 2007. However, tax data are not perfect either, since incentives exist for individuals to report their income in ways that minimize tax liabilities. Efforts to reconcile the two approaches and to address the problems of top-coding have shown that both data sources produce nearly identical trends, although some differences in the magnitude of growth of inequality in the 1990s remain (Burkhauser et al., 2009). The debate is largely one about how rapidly income inequality has grown during the past three decades (i.e. the period of financialization) and how to characterize the increases in income in the very top of the income distributions (e.g. the top 1 percent) - not whether income inequality has worsened over the period.

Turning to the connections between inequality and financialization, the growth in household indebtedness has been linked to worsening inequalities in the U.S. (e.g. Barba and Pivetti, 2009; Rajan, 2010; Seguino, 2010; Milanovic, 2009; Reich, 2011). Specifically, households may increase their consumption spending in an effort to achieve a standard of living which they associate with a wealthier reference group in an effort to "keep up with the Joneses". Growing inequality can lead to higher levels of consumption, and higher debt burdens, if consumption aspirations are tied to the living standards of households at the upper end of the income distribution. The idea that consumption may respond to relative incomes, in addition to the absolute level of income of a particular household, has a long history (e.g. Duesenberry, 1949). In the U.S., consumption expenditures have been found to be less unequally distributed than income (e.g. Heathcote, Perri, and Violante, 2010; Krueger and Perri, 2006). Neoclassical theory provides one explanation for this pattern: households smooth consumption spending in response to unanticipated income shocks.<sup>46</sup> However, this would not necessarily lead to higher sustained debt burdens over time, since borrowing would fall when income shocks are positive. Consumption behavior which responds to aspirations based on a wealthier reference group would also cause

<sup>&</sup>lt;sup>46</sup> For example, this is the interpretation given by Kruger and Perri (2006) in which they argue that the differences in income and consumption inequality are explained by random income shocks.





consumption inequality to be less pronounced than income inequality, but, in this case, we would also see a sustained rise in household indebtedness.

This suggests that income inequality can affect the level of indebtedness, which is the key aspect of financialization observed in the U.S. household sector. But what are the implications of reversing the direction of causality? Should financialization increase or decrease inequality? Some have argued that financial development should reduce inequalities, since poorer households are less likely to have access to financial services and credit markets. Relaxing these constraints should increase the array of choices available to individuals at the bottom of the income distribution and therefore potentially raise their living standards (Demirguc-Kunt and Levine, 2009). Since financial constraints are most binding for low-income households, relaxing these constraints are assumed to have a bigger impact on the less well-off, thereby reducing income inequality. However, this view of financialization, interpreted as financial deepening or financial development, sees the process as one which reduces the imperfections of financial markets. Financialization may also consolidate the influence and power of financial interests, create new opportunities for rent seeking, and alter bargaining dynamics in the economy (e.g. Claesons and Perotti, 2007). Under these conditions, financialization may increase polarization in the economy, rather than reducing it.

In cross-country analysis, there is some evidence that financial development measured in terms of stock market capitalization and banking deposits as a share of GDP - is associated with greater income inequality (Roine, Vlachos, and Waldenstrom, 2009). In the U.S., the worsening of income inequality has been associated with widening gaps in salaries and employment earnings - particularly increases in earnings among the best paid in the very top of the income distribution. As discussed in Chapter 7, the growth of executive pay is directly tied to the process of financialization. The rapid increase in salaries among corporate executives represents an important contributor to an expansion of average earnings at the top of the salary distribution (Gordon and Drew-Becker, 2008; Bebchuk and Grinstein,





2005). Performance pay schemes - such as bonuses and stock options - represent salary setting institutions which have contributed to rising inequality in the U.S. by boosting the compensation of top earners (Lemieux, MacLeod, and Parent, 2009; Lemieux, 2008). At the same time, wage setting institutions for those at the middle and bottom of the earnings distribution - such as collective bargaining agreements and minimum wage protections - have been weakened. The weakening of such institutions may be justified in terms of the protection of shareholder value.

Other researchers have documented the existence of a 'financial wage premium' for individuals employed in the financial sector (Philippon and Reshef, 2008). In the U.S., the financial wage premium was highest prior to the regulatory reforms of the 1930s and then increasing again during the era of financialization, when regulatory controls were relaxed or eliminated. This suggests that the financial sector - defined as a distinct segment of the U.S. economy - would have been a source of growing income inequality through its impact on earnings.

It is also useful to consider ways in which the process of financialization has affected non-employment income inequality, specifically through the channel of wealth or asset holdings. The relationship between income and wealth runs in both directions. Higher wealth holdings may be associated with higher income from the returns on assets. Higher incomes may be associated with more rapid accumulation of wealth through savings. To the extent that financialization affects the net worth of households and the returns on income-generating assets, it may have joint impacts on the distribution of income and wealth. Measuring the relationship between income and wealth can be challenging and sensitive to the definitions used. For example, as we have seen above, houses account for a significant share of total wealth for households in the middle of the income distribution. Since this is the case, should an estimate of 'housing services' (the returns on owner-occupied houses) be included in the measurement of income? In the U.S., there has been a movement away from defined benefit to defined contribution pension schemes. Defined contribution plans are often represented in terms of the monetary value of a stock of





assets, but defined benefit plans are represented as a flow of income to be received at retirement. Depending on how pensions are incorporated into wealth and income measurements, the shift from defined benefit to defined contributions could affect estimates of inequality (Kennickell, 2009).

In addition, there is the issue of the level of wealth and income and their distribution. Households could become wealthier on average, including growing wealth among the middle class, while the distribution of wealth becomes more unequal. Such trends complicate the analysis of the relationship between financialization and the distribution of wealth and income. For example, a larger share of households in the U.S. may be affected by changes in the value of financial assets as ownership of those assets grows - either directly or indirectly, e.g. in pension funds. This remains relevant even if the wealthiest families enjoy the largest increases in ownership of financial assets.

A study by Kennickell (2009) traces the relationship between the distribution of wealth and income in the U.S. from 1989 to 2007 using the *Survey of Consumer Finances*. Over this period, wealth, measured in terms of net worth, increased at similar rates across the middle of the distribution, from roughly the 20th to the 75th percentile. However, for the top 10 percent of households, net worth increased much more rapidly and, at the bottom of the distribution, net worth became significantly more negative. Therefore, there has been an increase in wealth inequality driven primarily by the two ends of the wealth distribution, while the middle of the distribution became wealthier in absolute terms without having a large impact on overall inequality. During this period, wealth tended to increase faster than income (except at the bottom of the distribution). This is consistent with wealth increases linked to rising housing and financial asset prices.

Kennickell (2009) also examined the joint distribution of income and wealth over the same period. The study found that households at the low end of the wealth distribution tended to have low incomes and those at the top of the income distribution tended to have high incomes. However, for those in the middle of the





income distribution, the relationship between wealth and income was significantly more variable. One possible explanation of these differences is age: households with older members may have relatively low incomes (based on pension benefits) but high net worth. For younger households, the reverse should be true. However, when the analysis controlled for differences in age, the correlation between income and wealth remained highly variable. This suggests that a concentration of financial wealth among the richest families would be associated with higher incomes for these households and would contribute to growing income inequality. However, the effect of changes in net worth on the incomes of the broad middle of the U.S. wealth distribution is less certain.

#### IV. Household Debt, Financial Fragility, and the Financial Crisis

The growth in household indebtedness has raised concerns that high levels of debt relative to income create conditions under which the U.S. economy is more vulnerable to macroeconomic shocks (Debelle, 2004). Consider a real or financial shock to the economy which reduces discretionary household incomes, e.g. through rising levels of unemployment, increases in debt servicing costs, or collapse of prices of key assets, such as real estate. Households will have less flexibility in responding to those shocks when they must meet sizable recurring debt payments or face the possibility of default. When households are highly leveraged, a negative economic shock will likely result in macroeconomic consequences which are more pronounced than would be the case if household debt were low. Aggregate demand would contract more significantly than would be the case if households felt they had the capacity to protect consumption by increasing borrowing. If the shocks are sufficient to prevent debt repayment, widespread default becomes likely, with significant consequences for the financial sector and credit markets.

Along these lines, Mian and Sufi, in a 2010 study, present evidence suggesting that household debt prior to the onset of the U.S. recession beginning in 2007 was a strong predictor of the severity of the contraction, using county-level data (Mian and Sufi, 2010). They found that counties in the U.S. that experienced a large increase in





household debt from 2002 to 2006 exhibit a pronounced decline in durable consumption relative to other households starting a year before the official start of the recession. In addition, households in counties exhibiting high reliance on credit card borrowing reduced durable consumption significantly following the financial crisis of the fall of 2008. The severity of the contraction in consumption expenditures is directly linked to the level of household indebtedness.

The U.S. sub-prime mortgage crisis and the subsequent global financial crisis provide a clear illustration of the links between household indebtedness, macroeconomic shocks, and financial fragility. For the reasons already discussed the widespread availability of liquidity and the expansion for demand for credit among households in the context of slower income growth and rising inequality mortgage debt had risen dramatically. Rising housing prices encouraged further borrowing against the market value of equity, creating a self-reinforcing cycle of rising debt and increasing prices (Mian and Sufi, 2011). In addition, credit was extended to populations previously excluded from mortgage markets and lenders engaged in predatory lending practices and in outright fraud. <sup>47</sup> The subprime mortgage crisis - and the broader financial crisis - was triggered by an abrupt change in this economic environment interacting with the fragile situation created by large amounts of debt. The US Federal Reserve provided an impetus for the collapse of the housing bubble by dramatically raising the Federal Funds rate from a low of 1.1 per cent in 2003 to 5 per cent by 2006. The subprime mortgages were not fixedrate mortgages. Instead, monthly payments were tied to market interest rates. When the Federal Reserve raised its interest rate well above the low rates that prevailed during the height of the boom, monthly payments on subprime loans quickly became unaffordable. Defaults became commonplace and the housing market collapsed.

One outcome of the subprime mortgage crisis has been 'deleveraging' among U.S. households (e.g. see Figure 14.1) - a reduction in debt relative to disposable

<sup>&</sup>lt;sup>47</sup> The U.S. Federal Bureau of Investigation (FBI) recognized the existence of widespread mortgage fraud in the U.S. during the period in which the subprime mortgage market was expanding rapidly. See http://www.fbi.gov/news/stories/2008/january/fin\_fradu013108.





income. In the context of high rates of unemployment and slow income growth, such debt reduction requires cuts in consumption expenditures and places downward pressures on aggregate demand (Glick and Lansing, 2009). Falling housing prices have further depressed aggregate demand. Clearly, the macroeconomic consequences of the expansion of household indebtedness during the era of financialization have been far-reaching.





# Chapter 15. The Relationship between the Finance Sector and Small/Medium Enterprises

The relationship of non-financial enterprises in the U.S. to financial markets depends on the size of the firm. Specifically, sources of credit and financial resources for investment and on-going operations vary significantly from small-scale enterprises to medium-sized enterprises to the largest enterprises. Because of these differences, the process of financialization takes on a distinct character for large non-financial corporations compared to small enterprises. In this chapter, we focus on small and medium sized firms and their relationship to credit markets. From different perspectives, we also consider similar issues in other chapters of this study. In Chapter 10, we examine sources of funds for both corporate and non-corporate businesses. In Chapter 17, we discuss the collapse of credit flowing to non-corporate businesses as one feature of the 2007-09 financial crisis and its aftermath.

There are many approaches to defining "small" or "medium" sized firms. A common criterion used in U.S. statistics is the number of employees. We adopt this convention in this discussion. Small and medium sized enterprises are typically defined as firms with fewer than 500 employees. The exact dividing line between small enterprises and medium-sized enterprises is arbitrary. Therefore, where possible, we present breakdowns of information based on a range of firm sizes. In addition, the U.S. *Flow of Funds Accounts*, a major source of information on the financial structure of non-financial firms, does not disaggregate its balance sheet information by firm size. However, it does distinguish between corporate and non-corporate forms of legal organization. Many small and medium sized enterprises will not be incorporated and we use this distinction as a proxy when looking at this financial information.

Table 15.1 presents summary information on the number of firms, total employment, and total payroll by firm size in 2009. Small-scale enterprises account for the majority of firms operating in the U.S. This is unsurprising, since a single





large enterprise represents a level of economic activity equivalent to many more smaller firms. In terms of employment, large enterprises (500 or more employees) account for slightly more than half of employment in private firms. In some respects, this evidence runs counter to a common claim that small enterprises are the most important source of jobs in the U.S. Interesting, the medium-sized enterprises, those with between 50 and 499 employees, have the largest ratio of total payroll to employees, suggesting that remuneration per worker is highest in these firms.

Table 15.1.

	Firms		Employm	ent	Payroll			
Size	number	%	employees	%	(millions)	%		
0-4	3,558,708.00	61.7%	5,966,190.00	5.2%	\$ 219.9	3.5%		
5-9	1,001,313.00	17.4%	6,580,830.00	5.7%	\$ 212.7	3.4%		
10-14	403,794.00	7.0%	4,719,555.00	4.1%	\$ 157.7	2.5%		
15-19	206,983.00	3.6%	3,471,734.00	3.0%	\$ 120.6	1.9%		
20-49	377,827.00	6.6%	11,339,817.00	9.9%	\$ 410.0	6.5%		
50-99	117,846.00	2.0%	8,050,123.00	7.0%	\$ 882.7	14.0%		
100-499	83,326.00	1.4%	16,153,254.00	14.1%	\$ 1,537.5	24.4%		
500+	17,509.00	0.3%	58,228,123.00	50.8%	\$ 2,770.7	43.9%		

Firms, employment, and payroll by firm size (number of employees), U.S., 2009

Source: County Business Patterns. U.S. Department of the Census.

Table 15.2 shows a breakdown by sector of activity and firm size. In general, small and medium sized enterprises are concentrated in trade and service activities. Retail trade, professional services, and health services account for the largest share of small enterprises with fewer than 20 employees. For those with 20 to 99 employees, accommodation and food services represent a significant branch of activity, along with retail trade and health services. Only among medium-sized enterprises with 100 or more employees do manufacturing activities emerge as one of the top three sectors.

## Table 15.2 Distribution of Small and medium-sized U.S.





## Businesses by Sectors, 2010

Figures are percentages of firms in each sector, according to range of employees

Sector	0-19 employees	20-99 employees	100-499 employees	All Firms
Agriculture, forestry, fishing	0.3%	0.1%	0.1%	0.8%
Mining and oil and gas extraction	0.4%	0.5%	0.6%	0.4%
Utilities	0.2%	0.5%	0.8%	0.1%
Construction	9.5%	5.5%	4.0%	10.3%
Manufacturing	3.7%	7.7%	13.7%	2.5%
Wholesale trade	5.6%	6.0%	4.8%	3.3%
Retail trade	14.4%	14.2%	17.4%	10.7%
Transportation/storage	2.8%	3.3%	4.1%	3.9%
Information	1.8%	2.4%	3.3%	1.6%
Finance and insurance	6.6%	4.0%	4.2%	4.5%
Real estate	4.9%	1.5%	1.0%	8.2%
Professional and technical services	11.9%	6.3%	5.8%	13.1%
Management of enterprises	0.6%	1.4%	2.9%	0.3%
Administration	5.1%	5.3%	8.9%	7.3%
Educational services	1.2%	2.0%	2.4%	2.0%
Health care and social assistance	10.9%	12.2%	15.8%	9.6%
Arts, entertainment, and recreation	1.6%	1.9%	2.1%	3.8%
Accommodation and food services	8.1%	20.0%	5.8%	4.4%
Other	10.5%	5.1%	2.4%	13.1%

Source: County Business Patterns. U.S. Department of the Census.

The balance sheets of small and medium enterprises differ from those of larger enterprises on both the asset and liability side. Table 15.3 presents summary balance sheet information for corporate and non-corporate non-financial enterprises. These data are taken from the Flow of Funds Accounts and therefore we use unincorporated enterprises as a proxy for small and medium enterprises. With regard to issues of financialization, data for two years are presented – 2007, before the recent financial crisis, and 2011, the most recent full year for which data is available at the time of writing. Table 15.3 shows that financial assets account for a much larger share of large enterprises (corporate enterprises) than smaller enterprises (non-corporate enterprises). In 2011, financial assets comprised nearly





half – 49.8 percent – of the assets of corporate enterprises, but only slightly more than a quarter – 26.5 percent – of non-corporate enterprises.





Table 15.3.

Selected balance sheet information, corporate and noncorporate nonfinancial businesses.

	Corporate					Noncorporate			
	(\$ millions)					(\$ millions)			
		2007		2011		2007		2011	
Non-financial assets	\$	16,755,240	\$	15,117,706	\$	11,082,534	\$	9,581,619	
Financial assets	\$	13,762,075	\$	15,025,307	\$	3,595,906	\$	3,450,013	
Total Assets	\$	30,517,316	\$	30,143,013	\$	14,678,439	\$	13,031,632	
Financial as % of total		45.1%		49.8%		24.5%		26.5%	
Credit market liabilities	\$	7,108,695	\$	8,018,149	\$	3,774,582	\$	3,750,971	
depository	\$	715,859	\$	618,438	\$	926,530	\$	911,747	
mortgages	\$	935,549	\$	664,422	\$	2,682,998	\$	2,664,574	
other credit	\$	5,457,286	\$	6,735,290	\$	165,055	\$	174,650	
Other liabilities	\$	5,807,264	\$	5,729,032	\$	1,574,401	\$	1,768,411	
Total Liabilities	\$	12,915,958	\$	13,747,181	\$	5,348,983	\$	5,519,382	
Bank and mortgages as % of total		12.8%		9.3%		67.5%		64.8%	

Source: Flow of Funds Accounts, U.S. Federal Reserve Board of Governors.





Sources of credit also vary between corporate and non-corporate enterprises. For smaller firms, bank credit and mortgage credit account for nearly two-thirds of total liabilities. For larger, corporate entities, bank and mortgage credit represent approximately one-tenth of total liabilities. This is partly because credit market liabilities account for a smaller share of total liabilities for corporate enterprises relative to non-corporate enterprises. However, it also reflects the fact that corporate firms have access to credit markets which small firms do not – e.g. commercial paper and corporate bonds. Smaller firms tend to rely more on bank-based credit.



#### Figure 15.1

Non-corporate enterprises exhibited a build-up of debt during the period of financialization. Figure 15.1 shows the real value of debt for non-corporate non-financial enterprises over the period 1970 to 2011. The rate of growth of debt is





particularly rapid from the second half of the 1990 to 2007. With the financial crisis in 2008, we see some evidence of deleveraging, but the size of this effect has been modest.

## Figure 15.2



A rapid increase in the value of the assets of small and medium sized firms helped to support the growth in debt. Figure 15.2 shows total credit market debt for noncorporate enterprises as a share of their total assets. It is useful to compare Figures 15.1 and 15.2. During the early period of financialization (the 1980s) smaller enterprises accumulated debt relative to the size of their assets. However, throughout the 1990s and into the 2000s, the ratio of credit market debt to assets did not show an upward trend – the ratio declined on average. This is the same period of time in which the real value of debt was increasing rapidly (Figure 15.1). Therefore, the value of assets held by





non-corporate enterprises was increasing along with the stock of debt. In the years immediately preceding the financial crisis, we see a very rapid increase in the size of the debt relative to assets. This would have contributed to a state of increased fragility among smaller enterprises leading into the 2008 financial crisis.

Figure 15.3 documents similar dynamics, but shows the flow of credit to smaller firms (again – non-financial, non-corporate enterprises). Here we see net borrowing increasing in the mid-1990s and growing rapidly in the years immediately before the 2008 crisis. After the crisis hit, net borrowing of smaller firms turned negative, indicating a process of deleveraging. These trends in credit flows also suggest that smaller business faced credit rationing in the aftermath of the crisis.



#### Figure 15.3





A range of factors influence whether small businesses borrow and whether they have access to credit. In an analysis of the Survey of Small Business Finances (SSBF), the Federal Reserve Board of Governors discusses the factors which influence the patterns of credit observed in the U.S. economy (Federal Reserve, 2007). Larger firms in terms of both employment and sales - are more likely to borrow than smaller firms. Industrial sector also matters, with firms operating in construction, manufacturing, and transportation more likely to borrow through traditional channels (e.g. through banks) than firms operating in other service activities. Similarly, older firms are more likely to borrow from traditional sources than younger firms. This may be, in part, because younger firms are more likely to be denied credit.

Not all small businesses use credit. A study based on 2003 SSBF data, found that approximately one-fifth of all small enterprises did not use credit of any kind (Cole, 2010). About an additional fifth of small firms only reported using trade credit - i.e. credit extended through suppliers, not through financial institutions. Therefore, roughly 40 percent of all small businesses did not borrow from banks or other financial institutions. The firms that did not use any form of credit tended to be smaller and more liquid than firms which used credit, and were concentrated in service activities. Interestingly, they also tended to be more profitable and to represent a better credit risk than firms which did borrow. Firms operated by women were more likely not to use credit compared to firms operated by men.<sup>48</sup>

Although borrowing from banks and depository institutions dominates the sources of credit for small and medium enterprises with regard to traditional credit markets, small firms in the U.S. also access credit through other means which may or may not be recognized as traditional financial institutions. As mentioned above, trade credit often represents an important source of finance for small enterprises (Cole, 2010). The use of

<sup>&</sup>lt;sup>48</sup> In a study of barriers to finance among small firms, Mitchell and Pearce (2005) found that being a woman tended to reduce the probability of having a loan, controlling for other factors, but this effect was not statistically significant.





business credit cards has expanded in recent years and represents an important source of credit for many small businesses (Federal Reserve, 2007).

Large lenders - those with assets of \$50 billion or more - account for the largest share of small business loans, both in terms of number of loans and total value of loans. Moreover, loans from large lenders increased significantly in the years before the 2008 crisis (Williams, 2012). There was not a pronounced increase in borrowing from smaller lenders (those with less than \$50 billion in assets). For instance, lenders with \$50 billion or more in assets accounted for 55.5 percent of loans to small businesses in 2006, growing to 72.2 percent by 2011 (ibid.). At the same time, the dropoff in lending observed as the 2008 crisis unfolded was largely a decline in lending among these large lenders. In part, increases in mergers and acquisitions in the commercial banking sector may account for the growing dominance of larger lenders in small business credit markets (Federal Reserve, 2007). Although large lenders dominate this market, it is also true that small enterprises tend to favor local credit markets - borrowing from branches of financial intuitions located nearby the place of operation (ibid.)

Studies have shown evidence of racial discrimination in small business credit markets, in which African Americans and Latinos are more likely to be declined credit, controlling for various factors and possible selection bias (Cavalluzzo and Wolken, 2002; Blanchflower, Levine, and Zimmerman, 2003; Mitchell and Pearce, 2005). Discrimination in small business credit markets may also reinforce non-participation of certain groups with regard to using traditional sources of credit. For example, African American borrowers are more likely to use no credit in their small enterprises compared to others with similar characteristics (Cole, 2010). This may lead to an increase in the use of non-traditional sources of credit (e.g. credit cards). Discriminatory practices appear to be sensitive to the type of credit arrangement. For instance, discriminatory lending appears to be less pronounced in relationship loans





(i.e. credit extended on an on-going basis by building a long-term relationship between a borrower and a lender) compared to transactions loans (i.e. credit which reflects oneoff borrowing for a specific use such as purchasing a vehicle) (Mitchell and Pearce, 2005).

The financial crisis beginning in 2007 resulted in a contraction in borrowing among small businesses. In part, this may represent efforts by small and medium enterprises to purposefully deleverage in order to improve their balance sheet. However, there is evidence that small businesses have been subject to credit rationing post-crisis. Small businesses were hard hit by the crisis. Between 2003 and 2008, overall employment in small businesses grew from 86.8 to 93.8 million, an expansion of 7 million jobs. But from 2008 to 2010, small business employment fell by 6.7 million jobs, nearly the full amount of the prior expansion (Bureau of Labor Statistics Quarterly Census of Wages and Employment, 2012 Q.2. According to a 2010 study by the New York Federal Reserve based on original survey data of small businesses, despite the economic downturn, 59 percent of survey respondents applied for credit during the first half of 2010 (Federal Reserve Bank of New York, 2010). Therefore, there appears to have been on-going demand for credit among small firms, despite the negative impact of the crisis on sales and demand. Among the entire sample, 41 percent were not able to access an adequate level of financing given their credit needs. This represents an increase from 22 percent two years ago, in the first half of 2008. These findings suggest that the Great Recession was associated with an increased prevalence of credit rationing among small and medium enterprises in the U.S. - not simply a lack of demand for credit in this sector due to weak aggregate demand in the economy at large.




## Chapter 16. Effects of the Financial Crisis on the U.S. Economy

The financial crisis of 2007-09 had deep and widespread effects on the operations of the U.S. economy and on U.S. society more generally. In this chapter, we briefly highlight some of the areas in which the financial crisis has impacted the U.S. economy and society. These areas include:

- 1. The U.S. housing market and household wealth;
- 2. The home mortgage lending market and borrowing/lending to businesses;
- 3. GDP growth.
- 4. Unemployment and wages;
- 5 Average incomes and poverty incidence;

6. The conduct of macroeconomic policy and debates around these issues in national politics.

- 7. State and local government finances;
- 8. Political attacks on organized labor.

## The Collapse of Housing Prices and Household Wealth

Figure 16.1 documents the quarterly movement of average U.S. real housing prices—the rise in the housing price index after controlling for overall inflation—from 1990 through 2012. As the figure shows, the steady ascent of housing prices begins in 1997 and starts accelerating in 1999. This continues through 2006, leveling off in 2007 before collapsing thereafter. From 1997 Q.11 to the price peak in 2006 Q.1, real housing prices rose by 84.5 percent. From the peak through to 2012 Q.3, average real housing prices then fell by 37.7 percent.







Figure 16.1 Real Quarterly Housing Prices in the U.S., 1990.1 - 2012.3

The rise and fall of housing prices are then reflected in the figures on household net worth. As we see in Figure 16.2, household net worth rises sharply along with the housing price bubble, from \$51.0 trillion in 2002 to \$70.7 trillion in 2006, a rise of 38.6 percent. The subsequent decline is then to \$53.1trillion in 2008, a fall of 24.9 percent.







This evaporation in wealth was also not simply a matter of households returning to a pre-bubble situation following an unsustainable boom. This is because households were increasing their debt obligations during the boom, whose collateral was the rising value of their homes.

We can see the dramatic extent of the rise in mortgage debt obligations in Figure 16.3, showing the ratio of mortgage debt as a share of households' disposable income. As the figure shows, as of 1970, mortgage debt is slightly less than 40 percent of household income. This figure rose to 58.5 percent as of 1990 and to 65.7 percent in 2000. However, between 2000 and 2007, mortgage debt experienced a dramatic ascent,





rising to 101.4 percent in 2007. Subsequent to the crisis, the ratio falls back to 84.1 percent as of 2011. Nevertheless, even this 2011 figure is far higher than anything experienced prior to the housing bubble over the 2000s.



## Figure 16.3 U.S. Household Mortgage Debt as percentage of Household Disposable Income, 1970 - 2011

As a result of the collapse of housing prices with households carrying unprecedented levels of mortgage debt, the percentage of households whose mortgages went "underwater"—i.e. the market value of the home was less than the mortgage debt outstanding—rose sharply. There are alternative methodologies for measuring the extent of underwater mortgages. The more conservative estimates come from the U.S. Census Bureau. According to a 2012 study published by the Census Bureau (Carter 2012), the pattern for underwater mortgages since the late 1990s proceeded as follows:





Overall, the percentage of housing units underwater increased from 4.17 percent to 4.94 percent from 1997 to 1999; dipped to 3.58 percent in 2001; increased to 5.12 percent in 2003; remained steady during 2003, 2005, and 2007; and shot up to 11.59 percent in 2009 (Carter, 2012, p. 156).

Through an alternative methodology, the private research organization CoreLogic estimated underwater mortgages in 2011 at 23 percent of the total market. CoreLogic reported that, as of 2012 Q.2, underwater mortgages were still at 22 percent of the total market (CoreLogic 2013).

#### Mortgage and Business Credit Markets

The collapse of household wealth and the rise of households with negative equity in their homes created major distress in the mortgage financing market. This distress has continued through 2013. The severity of the problem is documented through regular reports from the U.S. Federal Reserve itself. A 2010 study published through the Fed's Board of Governors summarizes the situation at that point as follows:

The first hints of trouble in the mortgage market surfaced as early as mid-2005, and conditions subsequently deteriorated rapidly....The share of mortgage loans that were "seriously delinquent" (90 days or more past due or in the process of foreclosure) averaged 1.7 percent from 1979 to 2006, with a low of about 0.7 percent (in 1979) and a high of about 2.4 percent (in 2002). But by the end of 2009, the share of seriously delinquent mortgages had surged to 9.7 percent. These delinquencies coincided with a sharp rise in the number of foreclosures started: Roughly 2.8 million foreclosures were started in 2009, an increase of 24 percent from the 2.2 million foreclosures started in 2008, an increase of 81 percent from the 1.5 million foreclosures started in 2007, and an increase of 179 percent from the 1.0 million foreclosures started in 2006.

Toward the onset of the crisis, delinquencies and defaults were concentrated primarily among subprime mortgages—loans made to borrowers who have





blemished credit histories and/or little savings available for down payments. Given what little equity these borrowers held in their homes, subprime borrowers were most susceptible to house price declines. Subprime borrowers, in particular, bet on continued gains in house prices in order to increase their equity positions in their homes. As house prices continued to fall, delinquencies and defaults also increased significantly among Alt-A (or near-prime) mortgage loans. Alt-A borrowers generally had more of an equity cushion than subprime borrowers, so house price declines had to be somewhat larger before their home equity began to erode. Finally, as the economy took a turn for the worse and house prices continued to plummet, delinquencies and defaults began to increase among FHA and prime borrowers (Sherlund, 2010).

In a more recent survey with data through July 2012, the New York Federal Reserve reported on the share of "distressed sales" in the U.S. housing market. The report states as follows:

Distressed sales include foreclosure sales, short-sales, and deeds-in-lieu. Distressed sales occur even in good economic times, but as the housing crisis unfolded, the share of sales that were distressed at the national level increased from less than 5 percent in 2003 to more than 30 percent in 2012. Distressed sales are a useful indicator of the magnitude of the housing downturn and a proxy for the speed of recovery or market clearing. (NY Fed, 2013, http://www.newyorkfed.org/regional/distressed-real-estate/).

For the U.S. as a whole, this study reports that distressed sales were at 33.6 percent of all sales as of July 2012.

The ongoing crisis in the mortgage market also then spilled into overall credit conditions for small businesses. As discussed in Chapters 10 and 15 as well, credit





stopped flowing into the non-corporate business sector in the U.S. as a result of the financial crisis. For these smaller businesses, total borrowing fell from \$530 billion in 2007 to negative \$202 billion in 2010—a \$730 billion reversal. The non-corporate business sector overall continued to obtain essentially zero net credit over both 2011 and 2012. As of the third quarter of 2012, non-corporate business borrowing was still, in the aggregate, less than \$20 billion—i.e. less than 4 percent of its level in 2007.

In fact, the channels between the collapse of the home mortgage market and the drying up of credit for small business have been more direct than is generally understood. This connection has been carefully examined by the leading U.S. financial market analyst Jane D'Arista. In a January 2013 report, D'Arista writes as follows:

After averaging annual increases of \$30 billion in bank loans in the years 1998-2000, small businesses saw their access to direct bank loans wither when the dot.com crisis took hold. But as a result of financial innovation, a new credit channel opened for these non-corporate enterprises and their credit market debt grew rapidly in the period from 2001 to 2008. The primary source of funding for this sector became fast-growing mortgage securitization programs that required company owners to pledge their private residences as collateral for mortgage loans to finance their small businesses.

D'Arista describes how as a result of securitization, small businesses' liabilities for residential mortgage debt rose by 46 percent in the first eight years of the decade. At first, the increase in borrowing it provided seemed highly beneficial, propelling growth in both net income and net worth for small business owners. But it also pushed up residential real estate to over half of this sector's total assets by 2004 and pushed up its debt as a ratio of net worth. The market value of small enterprises' residential real estate assets jumped 40 percent from 2002 to 2006 and fell 34 percent between 2006 and 2010. As such, securitization had made small businesses as vulnerable as households to the collapse of the housing market. Moreover, their shift to this channel





for financing exacerbated the decline in households' wealth and spending since equity in non-corporate businesses constitutes nearly one-fifth of household's net worth.

(D'Arista 2013).

#### GDP

Table 16.1 summarizes the experience of the Great Recession in terms of GDP growth. As the table shows, according to the National Bureau of Economic Research (NBER) official business cycle dating, the recession lasted officially from 2007 Q.4 to 2009 Q.2, seven quarters in total. Over these seven quarters, GDP fell by 2.4 percent. The table then shows the trajectory of GDP growth for the first three years coming out of the recession. As we see, GDP growth averaged 2.4 percent over this three-year span, from 2009 Q.3 to 2012 Q.2.

The table also presents figures on changes in GDP over the previous eight recessions, starting with 1953 Q.2 – 1954 Q.2,<sup>49</sup> as well as averages for all eight previous recessions. What is clear from these figures is that the Great Recession was far more severe than its predecessors by all indicators. Thus, the average duration of the previous eight recessions was 5.4 quarters, in comparison with the Great Recession, lasting seven quarters officially. In the previous eight recessions, the decline in GDP during the recession itself was 1.1 percent, in comparison with the 2.4 percent decline for the Great Recession. Finally, in the previous eight recessions, the recovery period coming out of the recession was much stronger. That is, average GDP growth for the first three years coming out of the previous eight recessions was 4.5 percent, in comparison with the 2.3 percent average GDP growth figure from 2009 Q.3 to 2012 Q.2.

<sup>&</sup>lt;sup>49</sup> Note here that we are defining the two official NBER recessions between 1980.1 and [1082.4???] as one "double-dip" recession.





## Table 16.1 Impact of Financial Crisis on GDP: Great Recession Relative to Previous Postwar U.S. Recessions

## Recession dating by National Bureau of Economic Research

	Duration of	GDP growth from	Average quarterly
	Recession, in	peak to trough of	GDP growth 3 years
	quarters	recession	after recession
Great Recession: 2007.4 2009.2	7	-2.4%	2.3%
1953.2 – 1954.2	5	-1.4%	4.0%
1957.3 – 1958.2	4	-2.0%	4.4%
1960.2 – 1961.1	4	-1.0	5.8%
1969.4 – 1970.4	5	-0.5%	5.2%
1973.4 – 1975.1	6	-1.5%	4.5%
1980.1 – 1982.4	12	0.0%	5.8%
1990.3 – 1991.1	3	-1.8%	3.2%
2001.1 – 2001.4	4	0.4%	2.9%
Averages for 8 previous recessions	5.4	-1.1	4.5%

Sources: Economagic; NBER

Note: The two official NBER recessions between 1980.1 and 1982.4 have been merged here into one "double-dip" recession.

## Unemployment and Wages





*Unemployment.* Considering data on a quarterly basis, the official U.S. unemployment rate rose from 4.5 percent in 2007 Q.2 to 9.9 percent in 2009 Q.4. Note that this peak unemployment rate occurred *after the recession had officially ended* in 2009 Q.2, when unemployment was at 9.3 percent.

The unemployment situation appears much more severe still when considering the broader official unemployment figure, or what the U.S. Bureau of Labor Statistics terms "labor underutilization" rate. This measure includes people who are employed only part-time though they are seeking full-time work, as well as those who are "marginally attached" to the labor force. These are people who have looked for employment sometime within the past year, though not when the labor force survey was conducted. By this broader measure, unemployment rose from 8.2 percent in 2007 Q.2 to 17.1 percent in 2009 Q.4. This 17.1 percent figure represented 26 million people, a figure greater than the combined populations of the ten largest cities in the United States—New York, Los Angeles, Chicago, Houston, Phoenix, Philadelphia, San Antonio, San Diego, Dallas, and San Jose.

We can observe the severity of the unemployment crisis engendered by the 2007-09 recession by comparing it with the previous eight post World War II recessions. We present relevant data on this in Table 16.2 and Figure 16.4. As Table 16.2 shows, the average unemployment rate over 2007 Q.4 – 2009 Q.2, at 6.6 percent, was nearly a full percentage point higher than the 5.7 percent average for the previous eight recessions. Even more telling, the unemployment peak during the 2007 Q.4 – 2009 Q.2 recession, at 9.3 percent, was more than two percentage points higher than the 7.1 percent average for the previous eight recessions. Still more to the point, for the three years after the most recent recession officially ended—i.e. from 2009 Q.3 – 2012 Q.2, unemployment averaged 9.2 percent. This is nearly three percentage points higher than the 6.3 percent average for the previous eight recessions. Note also that these averages for the previous eight recessions include figures from the 1980-82 double-dip recession, in





which quarterly unemployment rose as high as 10.7 percent, though the recovery was then much stronger than after the 2007–09 financial crisis.

# Table 16.2 Impact of Financial Crisis on Unemployment:Great Recession Relative to Previous Postwar U.S. Recessions

## Recession dating by National Bureau of Economic Research

	Average	Unemployment	Average
	Unemployment Rate	peak during	unemployment rate
	During Recession	recession	3 years after
			recession
Great Recession:	6.6	9.3	9.2
1953.2 – 1954.2	4.0	5.8	4.4
1957.3 – 1958.2	5.7	7.4	6.0
1960.2 – 1961.1	6.0	6.8	5.9
1969.4 – 1970.4	4.7	5.8	5.5
1973.4 – 1975.1	5.9	8.3	7.6
1980.1 – 1982.4	8.2	10.7	8.1
1990.3 – 1991.1	6.1	6.6	7.1
2001.1 - 2001.4	4.7	5.5	5.8
Averages for 8	5.7	7.1	6.3
previous			
recessions			

Sources: Economagic; NBER

Note: The two official NBER recessions between 1980.1 and 1982.4 have been merged here into one "double-dip" recession.





Figure 16.4 shows these same patterns in greater quarter-by-quarter detail. We can see clearly here the unique severity of the unemployment spike resulting from the 2007-09 financial crisis, and the ongoing high unemployment rates continuing three full years after the recession officially ended.





Source: U.S. Bureau of Labor Statistics

*Wages.* Going into the recession in 2007, the average non-supervisory worker's real hourly wage was \$19.29 (in 2012 dollars). That figure then rose modestly in 2009–10, up to \$20.08, before declining in 2011 and 2012. As of 2012, the average non-supervisory

Note: U-6 includes U-3 plus involuntarily part-time workers plus plus those 'marginally attached" to the labor forcei.e. those who have sought work within last 12 months and are available for a job.





real wage was \$19.77, 2.4 percent above the 2007 figure.<sup>50</sup> However, this average figure can be misleading, since the number of workers who lose their jobs altogether during recessions is drawn disproportionately from lower-wage job categories. Thus, all else equal, the more that lower-wage workers lose their jobs, the higher will be the average wage for those who remain employed. Such factors need to be controlled for in presenting an accurate picture of the impacts of recession on real wages.

Bivens and Shierholz (2013) provide a careful survey of the methodological issues at hand, in order to generate an accurate assessment of the impact of the recession on wages. Their overall conclusion is as follows:

Absent a much more rapid recovery to pre-recession unemployment rates, wages and incomes look to end in 2015 not appreciably higher than they were *more than 15 years in the past*—a lost decade and a half of the most important sources of living standards' growth for most American families. And the loss of wages and incomes experienced by low- and middle-income workers and their families will be the largest (2013, p. 92).

#### Incomes and Poverty Rates

*Incomes.* Not surprisingly, the rise sharp rise in unemployment, accompanied by reductions in wages for those still employed, led to significant declines in average family and household incomes as well as a sharp increase in the poverty rate. With respect to incomes, Bivens and Shierholz (2013) write in their survey paper:

The Great Recession generated very large declines in family and household incomes. Average family income fell by 3.7 percent between 2007 and 2009 while median incomes fell by 5.3 percent. This decline was actually ameliorated a bit by the fact that households over 65 actually saw income gains. Working-age households (aged 25–54) saw the largest declines within median incomes of 4.6 percent. This loss in working-age household median income is the largest two-

<sup>&</sup>lt;sup>5050</sup> These figures are from U.S. Bureau of Labor Statistics





year decline since 1994 (the first year this measure was tracked) and has actually pushed this metric below the level that prevailed in 1997.

*Poverty.* The fall in average family and household incomes led, in turn, to significant increases in the poverty rate over the recession. We show the effects on the official poverty rate in Figure 16.5. As the figure shows, over recent years, the poverty rate began rising sharply after the 2001 recession, rising from a low in 2000 of 11.3 percent to 12.7 percent in 2004, before basically leveling off in 2005–07. From 2008 to 2011—i.e. during the recession—the poverty rate again begins rising sharply, though now from a higher base than in 2001, reaching 15.1 percent in 2010 and 15.0 percent in 2011. Considering the full period 1970 – 2011,, this two year peak in the official poverty rate over 2010-11 was roughly equal to the highest one-year rates attained previously, in both 1983 and 1993. In terms of numbers of people in poverty, the 2010-2011 peak percentage represented 46.3 million people, an unprecedented figure since such statistics have been generated.







### Macro Policy Debate and Austerity

We discuss in Chapter 17 the extraordinary changes in U.S. macroeconomic policy that followed in the aftermath of the 2007-09 financial collapse. That is, first, in terms fiscal policy, the U.S. fiscal deficit rose to 10.1 percent of GDP in 2009, a level that is historically unprecedented in peacetime. The deficit remained near the 2009 historic high, averaging 8.7 percent of GDP in the period 2010-12. This contrasts with the average deficit level of 2.2 percent of GDP over the period 1950–2012. The departures from the norm in monetary policy were equally extraordinary. As we discuss in detail in Chapter 17, in response to the crisis and recession, the Federal Reserve pushed the federal funds rate down to near zero as of January 2009. Federal Reserve Chair Ben Bernanke has stated that the Fed intended to hold to a zero-rate policy through 2015.





The Fed also undertook three rounds of "quantitative easing." These measures were in addition to the massive bailout operations conducted through both the U.S. Treasury and Federal Reserve, to prevent the collapse of the major banks and auto companies, along with the U.S. money market and global financial system generally.

There have been widespread debates as to the effectiveness of these measures as countercyclical interventions. The weight of evidence supports the view that, at the least, they did succeed in substantially reducing the severity of the recession. But it is clear from the data we reviewed above on GDP growth in the first three full years subsequent to the crisis that these measures were not sufficient to bring the U.S. economy back onto a healthy recovery trajectory. Again, there are widespread debates as to why these measures were not adequate to returning the economy onto a healthy growth path. The one factor that is most evident from such debates is that precisely because the downturn was so severe, the task of macro countercyclical interventions was correspondingly much more challenging. The two most important measures of the severity of the recession were the patterns we reviewed above on 1) the collapse of house prices and household wealth, and 2) the impact this had on mortgage markets specifically and the credit market more generally.

However, the fact that the major expansion of the federal government's deficit did not succeed in moving the economy onto a healthy growth trajectory generated a major shift in macroeconomic policy debates. That is, by early 2010, the primary focus of macroeconomic policy debates became the size of the fiscal deficit itself, with this debate centering on the question: how much austerity—i.e. tax increases and spending cuts—would be necessary to bring the deficit under control? As we note below, this debate has been conducted both among high-level policymakers and leading academic economists, even while major areas of basic evidence that should inform the debate are neglected.





*Congressional "fiscal cliff" debates.* The extent to which deficit reduction became the overarching focus of macro policy was reflected in a series of specific policy debates in the U.S. Congress, on raising the legal limit as to how much the federal government could borrow as well as to how to address the so-called "fiscal cliff." The idea of a "fiscal cliff" emerged out of the inability of Republicans and Democrats in the U.S. Congress to agree on a program of deficit reduction in November 2011, and therefore to enact by January 2013 automatic cuts in both social and defense spending as well as automatic tax increases. In fact, Congress did agree on some tax increases before the stipulated deadline on December 31, 2012, including raising the top marginal income rate from 35 to 39.6 percent for earnings over \$400,000, an increase in the estate tax from 35 to 40 percent, and a restoration of the workers' share of the payroll tax from 4.2 to 6.2 percent.<sup>51</sup> But they were unable to agree on enacting any possible spending cuts or additional possible tax increases. These subsequent debates will continue at least through the first six months of 2013.

Academic "deficit hawks. Pollin (2010) presents a critical survey of the arguments that were being advanced by leading academic deficit hawks starting in 2010. To capture the tone of these arguments within the sphere of public debates, it will be instructive to focus on the perspectives offered by one such figure, the leading conservative macroeconomist John Taylor of Stanford University. Taylor has written regularly about the increase in the U.S. deficit and debt in a tone that is openly alarmist. For example, Chapter 3 in his 2012 book *First Principles* is titled "Defusing the Debt Explosion." He writes there as follows: "Nothing better signifies America's recent failure to follow the principles of economic freedom than the exploding debt of the federal government. I do not exaggerate when I use the word "exploding"" (p. 101).

Taylor then presents a graph taken from the U.S Congressional Budget Office, showing total federal government debt as a share of U.S. GDP from 1850–2050 and

<sup>&</sup>lt;sup>51</sup> The main features of the end of 2012 "fiscal cliff" deal are summarized well in Weise (2013).





beyond. We reproduce this graph below as Figure 16.6, including Taylor's own notation within the graph. Taylor observes about this graph that:

Its soaring upward climb resembles the fireworks on America's Independence Day. But rather than remind us of America's founding, it portends America's ending. I carry a version of the chart in my wallet and show it to my students, and to my children and grandchildren, because it's their future on the line (p. 101).





## Figure 16.6

## U.S. Federal Debt/Income Ratio from 1800 – 2050 Projection

*Projection by U.S. Congressional Budget Office, with Annotation by John Taylor As Cited in Taylor (2012)* 



What Taylor does not clarify in his discussion of this figure is that the segment of the graph that is exploding "like fireworks," is occurring well into the future, starting around 2040. This explosion represents only a long-term projection of future U.S. debt growth by the Congressional Budget Office, working from a set of highly unrealistic assumptions about U.S. fiscal deficit spending and taxation over the next 35 years. But the fact that someone of Taylor's professional stature would write in such alarmist





tones reflects the broader tenor of debate that dominated U.S. fiscal policy debates after 2010.

*Some basic evidence*. One of the extraordinary features of this debate on the fiscal deficit and austerity is that it has been conducted with very little reference to at least two straightforward facts that are critical to framing the issue appropriately. The first is that, throughout the period beginning with the crisis, the U.S. Treasury has been able to borrow at historically low interest rates. We can see this in Figure 16.7, which shows the interest rate on 5-year Treasury Bonds on a quarterly basis from 1970 Q.1 to 2012 Q.4. As we see, at the end of 2012, the U.S. government was borrowing at 0.7 percent on its 5-year bonds.



Why have interest rates on U.S. government bonds remained so low despite the large deficits? Two factors have been at play. The first is that financial market investors





globally became much more risk averse since the financial collapse, in a dramatic reversal of their mindset during the bubble years. Within that mindset, investors voted strongly in support of U.S. government bonds as the single safest store of their wealth. The European fiscal crisis that began in the spring of 2010 provided yet another reminder that, however unfavorable conditions may be in the U.S., they can easily become worse someplace else. In addition, the Federal Reserve's aggressively accommodative stance reinforced the major downward pressure on U.S. Treasury rates.

Because the Treasury rates have been historically low throughout the recession and subsequently, it has meant that the federal government's debt servicing burden has been correspondingly low, despite the high level of indebtedness. We can see this in Figure 16.8, showing U.S. government interest payments as a percentage of total federal expenditures. As we see there, government interest payments from 2007 Q.4 through to 2012 Q.3 averaged 8.4 percent. This contrasts with an average figure of 17.2 percent between 198192, under President Ronald Reagan and George Bush Senior. What is evident from this figure is that, despite the fact that U.S. macro policy debates are centered around the need for austerity to prevent a fiscal crisis, in fact, the U.S. was not facing a fiscal crisis at all in the commonsense meaning of the term, i.e. that the federal government was not approaching a point where it could become unable to cover its upcoming debt obligations.









As of writing this study in February 2013, U.S. macro policy remains focused around the austerity debate. It is impossible to judge how long this situation will continue, or the extent to which it will act as a drag on recovery.

### State and Local Government Fiscal Crisis

Due to the sharp falls in incomes, spending, and property values tied to the recession, tax revenues from the two main sources for state governments—income and sales taxes—declined precipitously, and even local property taxes, after expanding continuously for decades, were flat in 2010. By 2010, state tax revenues (adjusted for inflation and population growth) had fallen by fully 13 percent relative to where they were in 2007. By comparison, revenues fell only 7 percent following the 2001 recession.





Even during the 1981-82 recession, the most severe post World War II downturn prior to 2007 – 09, the decline in state tax revenues was less than 2 percent.<sup>52</sup>

Table 16.3 below shows the change in inflation-adjusted state tax revenues from the most recent revenue peaks in each state—those mostly being 2007—through 2011. We show figures aggregating revenue levels for all states, as well as those for six large, representative states, from different regions of the country—i.e. California, Illinois, New Jersey, New York, Texas and Virginia. Overall, by the end of 2011, state tax revenues were down by 7 percent relative to the most recent peak levels. There were significant differences among the six representative states. But in the best case, New York, revenues were still down by 0.2 percent, while in the worst case, New Jersey, the revenue decline was 15 percent.

## TABLE 16.3 Decline in State Tax Revenues:

All U.S. States	-12.0%	-7.0%
California	-14.9%	-4.8
Illinois	-18.7%	-8.2%
New Jersey	-17.2%	-15.0%
New York	-4.3%	0.2%
Texas	-15.4%	-9.2%
Virginia	-15.9%	-12.6%

From Most Recent Revenue Peak to Revenue Troughs and 2011

Source: State Budget Crisis Task Force (2012)

Note: Figures are adjusted for inflation, but not for legislative changes.

<sup>52</sup> Data are from Pollin and Thompson (2011). See also Heintz (2009) for related data and perspectives.





The recession also meant that people's needs for state services rose sharply. This is clear through considering the situation with Medicaid, the U.S. health insurance program for low-income families that is jointly funded by the federal and state-level governments. Four million more people received health insurance through Medicaid in 2012 relative to 2008, as a result of rising unemployment and employers cancelling health care coverage. In addition, the number of people seeking assistance from the Low Income Home Energy Assistance Program, another joint federal/state government program, rose by 53 percent between 2008 and 2011, from 5.8 to 8.9 million households. That is, as of 2011, about 8 percent of all households were receiving this assistance. The net result of the collapse of tax revenues and rising demand for state services was budgetary shortfalls of \$191 billion in 2010, \$130 billion in 2011 and a projected \$112 billion in 2012. The 2011 shortfall was equal to 19 percent of all state spending commitments (Pollin and Thompson, 2011).

All states in the U.S. other than Vermont are required to maintain a balanced budget on their operating budgets every year. Without having the option of deficit spending on their current account, the states adjusted to these budgetary shortfalls through a combination of measures. The federal government's 2009 stimulus program, the American Recovery and Reinvestment Act (ARRA), along with supplemental funds for Medicaid, did provide substantial support to help cover state and local government budget gaps. This amounted to about one-third of total budget gap generated by the recession. But that still meant that about two-thirds needed to be filled by other means. The ARRA funds also ran out by 2011.

The other two-thirds of the states' budget gaps were filled by the following means (State Budget Crisis Task Force, 2012):





Drawing down their reserve balances, which meant decreasing their aggregate reserves from 11.5 percent of general fund expenditures in 2006 to 5 percent in 2010.

One-time non-recurring adjustments, such as shifts in the timing of revenues and expenditures, and short-term borrowing to fund current spending.

Tax increases, which amounted to a total of \$23.9 billion for fiscal year 2010.

Expenditure cuts.

The largest adjustments have been made through expenditure cuts. The extent of the expenditure cuts is reflected in the changes in employment for state and local governments, in comparison with changes in private employment. In Table 16.4, we present basic figures for the U.S. as a whole, along with six of the large, regionally representative states, California, Illinois, New Jersey, New York, Texas and Virginia. As the table shows, between December 2007 and June 2009, state and local government employment rose slightly, by 0.7 percent, before falling by 3.1 percent from June 2009 to May 2012. This contrasts with private employment, which fell by 6.6 percent from June 2009 to May 2012. The patterns of the six major states in the table are broadly reflective of this same nationwide pattern.





## **TABLE 16.4**

Employment Changes for State and Local Governments and the Private Sector since the Start of the Great Recession

	Percentage Change in Employment	
	December	June 2009 – May
	2007 – June 2009	2012
All States		
State & Local Govt. Employment	0.7%	2.9%
Private Employment	-6.6%	-3.1%
California		
State & Local Govt. Employment	-0.4%	-5.6
Private Employment	-8.6%	2.7
Illinois		
State & Local Govt. Employment	1.2%	-3.0%
Private Employment	-6.9%	1.6%
New Jersey		
State & Local Govt. Employment	0.8%	-3.6%
Private Employment	-5.8%	1.4%
New York		
State & Local Govt. Employment	0.8%	-1.7%
Private Employment	-3.6%	4.4%
Texas		
State & Local Govt. Employment	3.5%	-2.6%
Private Employment	-3.6%	6.3%
Virginia		
State & Local Govt. Employment	1.6%	2.4%
Private Employment	-4.8%	0.7%

Source: State Budget Crisis Task Force (2012)





State and local governments spend most of their money on education, health care, public safety and various forms of non-health related social support, such as the home heating oil programs. The gaps in state and local governments have led to significant cuts in all these areas of public sector funding. The severity of the cuts have been exacerbated by the fact that the population being supported by these programs has grown by approximately 12 million people, nearly 4 percent, between 2007 and 2012.

### Attacks on the Public Sector and Public Employees<sup>53</sup>

Despite the reality that the state-level fiscal crisis was caused by the Great Recession, a widespread movement emerged among powerful groupings on the political right to claim that the fiscal crisis was the result of long-term excesses in public sector programs and on compensation for public sector workers. Thus, Arthur Laffer and Stephen Moore wrote in their introduction to the 2009 Annual Report of the American Legislative Exchange Council, "The real problem facing states is the fundamental issue of overspending taxpayers' dollars" (p.2) Yet in fact, state and local spending has remained remarkably stable for decades, without having ever produced anything close to the severe budget crisis tied to the 2007-09 recession. Thus, in 2006, just prior to the recession, spending by state and local governments was 22.2 percent of total personal income, only slightly higher than the average figure over the mid-1990s of 21.5 percent. State and local government spending levels do fluctuate on a shortterm basis as the overall economy alternates between phases of growth and recession. Over the longer term, state and local governments do also face rising cost pressures to cover health care expenses. But this is an economy-wide problem, with the federal government and private businesses experiencing similar pressures resulting from the excessive administrative burdens of the U.S. health-care system relative to those of other advanced economies.

<sup>&</sup>lt;sup>53</sup> References in this section are taken from Pollin and Thompson (2011).





It is also untrue that state and local government workers are overpaid, despite widespread claims to the contrary. One widely cited 2009 *Forbes Magazine* cover article reported that "State and local government workers get paid an average of \$25.30 an hour, which is 33 percent higher than the private sector's \$19....Throw in pensions and other benefits and the gap widens to 42 percent."

What such figures fail to reflect is that state and local government workers are older and substantially better educated than private-sector workers. *Forbes* is therefore comparing workers with different attributes. As John Schmitt of the Center for Economic Policy Research recently showed (2010), when state and local government employees are matched up to private-sector workers of the same age and educational levels, the state and local government workers throughout the U.S. actually earn, on average, about 4 percent less than their private-sector counterparts. Moreover, the results of Schmitt's properly constructed comparison are fully consistent with numerous studies examining this same question over the past 20 years.<sup>54</sup>

#### Broader Attacks on U.S. Workers Rights

Such attacks on public sector workers emerging out of the recession broadened to become state-level attacks on workers collective bargaining rights generally. Thus, amid the struggle over its fiscal crisis, the state of Wisconsin passed a law in 2011 curbing the collective bargaining rights of many public employees. In that same period, Indiana enacted a right-to-work law, which enables workers to receive the benefits of union contracts without having to join the union. The state of Michigan, which, since the 1930s, had been the most significant stronghold of unionism in the United States, also became a right-to-work state in December 2012. The Michigan legislation enacting the right-to-work legislation was rushed through the Michigan legislature, without hearings during an end-of-year lame duck session. As a result of these and related actions, the

<sup>&</sup>lt;sup>54</sup> Schmitt (2010), p. 6, footnote 9, lists additional references over the period 1988 – 2002 on this point.





proportion of U.S. workers who were union members fell to a 97-year low in 2012, of 11.3 percent of the U.S. workforce (Greenhouse, 2013).





## Chapter 17. Transmission of Macro Policy through the Financial System

The two basic tools of macro policy, of course, are fiscal and monetary policy. Strictly in terms of flow-of-funds accounting, both of these tools operate through the financial system. How effectively fiscal and monetary policy operate therefore depends on how the financial market channels are functioning while the macro policy agenda is being pursued. As such, changes in the structure of the financial system will influence the results of macro policy interventions.

For example, if the federal government pursues a fiscal expansion through tax cuts, the effectiveness of the policy will depend on the level of indebtedness being carried by private households and businesses, since that level of indebtedness will influence the extent to which a tax cut induces increased spending by private agents. The impact of a deficit increase on aggregate activity could also be influenced by the extent to which interest rates rise in response to the deficit increase. This again will depend on conditions in financial markets.

As regards monetary policy, the primary policy intervention is to move the federal funds rate through Federal Reserve open market operations. However, the effectiveness of any such intervention will depend on several factors. These include the responsiveness of other interest rates, in particular those that apply to business investors, to a change in the federal funds rate; the responsiveness of private investment to movements in the cost of capital; and the financial regulatory structure, which will influence the extent to which funds will flow into speculative or productive investment. As we discuss below, these considerations are closely related to the perspectives developed by a range of Post Keynesian economists under the broad topic of endogenous money theory.

We provide an overview of these issues in what follows, focusing especially on the experience since the onset of the 2007-09 financial crisis and Great Recession.





### **Fiscal Policy**

When the government pursues a fiscal expansion to counteract a downturn, the central issue in establishing the impact of the expansion is how large will the multiplier be—that is, how large will be the increase in private consumption and investment spending in response to the initial increase in government spending. There is a large empirical literature on estimating the magnitude of the multiplier. One of the key recent developments in this literature is the recognition that the magnitude of the multiplier is dependent on the conditions in the economy at the time the spending injection occurs. For example, a 2011 survey by Parker concludes by observing:

To date, much recent work on the effects of fiscal policy implies that its impact on consumption, output, and other economic outcomes is the same in a booming economy as in the depths of a recession...It seems desirable to relax this assumption. Some theoretical and some empirical work that allows statedependence in the effects of policy suggests that state dependence may be quite important," (p. 716).

An earlier 2002 survey paper by Hemming et al of the International Monetary Fund (2002) reported estimates of the multiplier for the U.S. economy, among other countries, that ranged between 0 and 2.0. They argued that the conditions under which a government stimulus will generate a relatively large multiplier will include the following: significant excess capacity; liquidity-constrained households; government spending is not substituting for private spending; the government is not facing financing constraints; and there is an accompanying monetary expansion with limited inflationary consequences.

More generally, the recent literature on multiplier effects identifies two sets of factors that can generate variation in the magnitude of multipliers: 1) the specific ways through which aggregate spending is being expanded and financed; and 2) the state of





the economy when stimulus measures are enacted. As we will see below, conditions in financial markets play a major role in determining both sets of factors.

### Crowding Out or Crowding In?

A longstanding debate on the effectiveness of fiscal stimulus policies is whether such policies will lead to the "crowding out" of private investment, which in turn will render the fiscal stimulus ineffective.<sup>55</sup> According to the crowding out argument, a fiscal expansion will be ineffective because the increase in government borrowing will lead to an increase in interest rates for private sector borrowers. This will therefore discourage both business and household borrowing, offsetting the rise in deficitfinanced government spending.

However, at the very least, the significance of any such crowding out effect will depend on: 1) how much interest rates (and more broadly, the cost of capital) for private business borrowers will be influenced by the rise in government borrowing; and 2) how much private investment decisions are influenced by movements in the interest rate relative to other factors, such as the rise in aggregate demand induced by a fiscal stimulus.

Both of these conditions, in turn, will be influenced by conditions in financial markets. Consider as a general case the impact when an economy experiences a rise in the proportion of financial asset transfers—purchases and sales of financial assets, including especially through debt-financing—as a share of total activity. Under such circumstances, the prices of outstanding assets—stocks, bonds, and derivative assets—will be liable to greater fluctuation. When the market value of existing assets rises, this increases the collateral base for making loans, and therefore, controlling for all other relative risk and maturity considerations, should lower lending rates. At the same time, such a rise in the value of assets can also induce a speculative bubble, in which rising

<sup>&</sup>lt;sup>55</sup> Some earlier references on this debate, offering alternative perspectives, includes Eisner (1986), Friedman (1988), Heilbroner and Bernstein (1989), and Rock (1991).





asset prices in turn produce rising collateral values. In such circumstances, any impact of an expansion of government borrowing on interest rates for private businesses will be contingent on the extent of speculative asset transfers.

We can obtain a sense of the importance of such considerations by recalling here the data we examine in detail in Chapter 10 on "Sources of Funds for Business Investment." We showed there that U.S. non-financial corporations became increasingly "financialized" over the course of the past 60 years. That is, both their borrowing and their purchases of financial assets have risen sharply as a long-term trend relative to their expenditures on fixed plant and equipment, while quarterly fluctuations in the extent of borrowing and asset transfers have also increased. It should follow that the extent of any impact of government borrowing on the interest rates that affect business borrowing and investment will be mediated by this rise in corporate financialization. As we discuss in Chapter 10, this is the main finding of Orhangazi's (2008) econometric research on this question.

#### Fiscal Policy during the Great Recession

As a result of the 2007-09 financial market collapse and subsequent Great Recession, the U.S. government, along with governments throughout the world, enacted extraordinary measures designed to counteract the crisis. In terms of U.S. fiscal measures, Barak Obama signed the American Recovery and Reinvestment Act (ARRA) into law in February 2009. The bill, which included \$787 billion in new government spending and tax cuts for households and businesses, was the first major act of Obama's presidency.

As a result of this fiscal measure, the U.S. fiscal deficit grew rapidly starting in 2009. The deficit reacted \$1.4 trillion, or 10 percent of GDP that year and \$1.3 trillion in both 2010 and 2011, equal to 8.9 and 8.5 percent of GDP in those years. Prior to that, the deficit averaged 2 percent of GDP under George W. Bush (2001-08) and 0.8 percent of GDP under Bill Clinton (1993-2000). For the period 1950 – 2011, the U.S. fiscal deficit





averaged 2.2 percent of GDP. Figure 17.1 presents this historical pattern for U.S. federal government deficits as a share of GDP.



Figure 17.1 U.S. Fiscal Surpluses and Deficits as Share of GDP 1930 - 2012

The fact that an expansion of the fiscal deficit of this magnitude was enacted was itself a result of the prior dramatic shift in financial market conditions, i.e. it was a response to the prior financial market collapse. Moreover, the effectiveness of this policy as a counterweight to the financial collapse could only be measured within the context of the conditions in financial markets both prior and subsequent to the collapse. In particular, the extent to which households and businesses would be prepared to respond to the tax cut components of the ARRA by increasing their spending was, in fact, diminished because of the heavy levels of indebtedness they carried going into the crisis.





Thus, as we see in Figure 17.2, considering the period 1970 – 2011, overall household leveraging (i.e. total liabilities/disposable income) had reached a peak as of 2007. Overall leveraging for non-financial businesses (total liabilities/pre-tax income for all non-financial businesses) was not at a peak, but nevertheless was a high historic level.





## Figure 17.2 Leveraging Ratios for U.S. Households and Nonfinancial Businesses, 1970 - 2011



At the same time, as we see in Table 17.1, various forms of tax cuts and direct payments to individuals exclusive of unemployment insurance accounted for roughly 30




percent of the ARRA stimulus program. Yet, these tax and transfer payments had only weak multiplier effects. We report on these multiplier effects in Table 17.2, which shows figures from the U.S. Congressional Budget Office. The first thing that stands out with these figures is that, especially for the activities with relatively large estimated multipliers, the range between the low- and high-end estimates is also large. Thus, as we see, for federal purchases and transfers to state and local governments for infrastructure spending, the multipliers range between 1.0 and 2.5, i.e. the high estimate is 2.5 times larger than the low estimate. Allowing for such uncertainty, it is still also clear that there are large differences in the range of values for the various output multipliers. For our purposes, the key result is that the multipliers for tax cuts and transfer payments other than unemployment insurance are significantly lower than those for federal government direct purchases and transfers to state and local governments. The weakest multiplier was for tax cuts for higher-income people, ranging between 0.3 and 0.6. Despite this, as we have seen, such tax cuts amounted to fully 9.2 percent of the total fiscal stimulus package.<sup>56</sup>

<sup>&</sup>lt;sup>56</sup> This basic finding by the CBO is supported by a recent paper by John Taylor (2011). Taylor examined the multiplier effects of the ARRA as well as the two previous fiscal stimulus programs, in 2001 and 2008. Overall, Taylor found that these three stimulus packages "did not have a positive effect on consumption and government purchases, and thus did not counter the decline in investment during the recessions as the basic Keynesian textbook model would suggest." According to Taylor, the most important reason for this was that individuals and families largely saved the transfers and tax rebates.





# Table 17.1. Components of 2009 ARRA Stimulus Program

	Funding Committed	Pct of Total Funding
Transfers to Persons	\$271	34.7%
Unemployment Insurance	\$224	28.6%
Tax Cuts	\$190	24.3%
Higher Income Tax Cuts	\$72	9.2%
Lower and Middle-Income Tax	\$64	8.2%
Cuts		
Business and Other Tax	\$40	5.1%
Incentives		
Transfers to State and	\$174	22.2%
Local Governments		
Divided Equally Between		
Medicaid and Education		
	A4 ( 7	40.00
Infrastructure and Other	\$147	18.8%
Direct Spending		
Non-traditional	\$109	13.9%
Infrastructure, including		
Green Economy		4.004
Iraditional Infrastructure	\$38	4.9%
TOTALS	\$782	100%

Source: Blinder and Zandi (2010)





# Table 17.2. Congressional Budget Office Range of Estimates of Output Multipliers for ARRA

Type of Activity	Estimated Output Multipliers	
	Low Estimate	High
		Estimate
Federal Government Purchases of Goods and Services	1.0	2.5
Transfers to State and Local Governments for Infrastructure	1.0	2.5
Transfer Payments to Individuals	0.8	2.1
Transfers to State and Local Governments for Other Purposes	0.7	1.8
Tax Cuts for Lower- and Middle Income People	0.6	1.5
One-Time Payments to Retirees	0.3	1.0
Extension of Homebuyer Credit	0.3	0.8
Tax Cuts for Higher-Income People	0.2	0.6

Source: CB0 (2011)





Overall then, the experience with the ARRA makes clear that conditions in financial markets will play a major role in determining the effectiveness of fiscal stimulus programs.

#### **Monetary Policy**

It will be useful to frame this discussion within the perspectives developed around the theme of endogenous money theory. Post-Keynesian economists have developed different variants of endogenous money theory since the 1950s, but especially since the 1980s. This is not the appropriate forum for reviewing long-standing debates on this topic.<sup>57</sup> Suffice it to say that within the "structuralist" variant of endogenous money theory, changes in the operations of financial markets are central to determining the capacity of central banks to achieve the policy goals they set for themselves. Thus, within the context of the U.S. financial system, the ability of the Federal Reserve to influence market interest rates through its power to move the federal funds rate will vary, depending, among other things on the extent of speculative market trading and market volatility. In turn, these variables are influenced by the nature and extent of U.S. financial regulations at any given time (Pollin, 2009). The extent to which the U.S. is integrated within the global financial system will similarly impact the capacity of the Federal Reserve to influence U.S. economic activity. As we discuss in Chapter 18, the fact that U.S. domestic banks have developed increasingly reliable access to credit through global financial markets has weakened the capacity of the Fed to implement restrictive monetary policy.

For observing how the transmission of monetary policy proceeds through the financial system within the contemporary U.S. economy, it will be instructive to focus on the movements of the federal funds rate, starting with the period prior to the 2001

<sup>&</sup>lt;sup>57</sup> Fontana (2011) offers a careful review of these debates and develops an approach toward synthesizing the alternative perspectives. Arestis and Sawyer (2006) provide a more general perspective on how to analyze monetary policy possibilities within a framework of endogenous money.





financial crisis and recession. In Figure 17.3, we show the movement of the federal funds rate from 1998 Q.1 to 2013 Q.1.



#### Emergence of the Financial Bubble

The first key pattern to observe is the sharp drop in the federal funds rate, from 6.5 percent in 2000 Q.1 to 1.7 percent in 2002 Q.1, and the further decline to 1.0 percent through mid-2004. This was the policy under former Federal Reserve Chair Alan Greenspan to counteract the recession induced by the financial crisis of that period, i.e. the dot.com bubble and crash.

The 2001 recession did end relatively quickly. It is widely claimed that the low interest rate regime created by Greenspan created the conditions for the subsequent





financial bubble (e.g. Taylor 2009). However, what is left out of this perspective is that during this same period, the extent of U.S. financial regulations were greatly weakened, with the repeal of Glass-Steagall. As a result of this, the low interest rate regime encouraged massive increases in leverage to finance speculative trading. This included the explosion of the sub-prime market, mortgage-backed securities, and credit-default swaps. At the same time, the long-term decline in reserve requirements for the commercial banking sector enabled the banks to carry nearly zero cash reserves as the financial bubble proceeded.<sup>58</sup> Thus, as we see in Figure 17.4, the level of cash and reserves held by U.S. commercial banks had fallen from 4.4 percent of total liabilities in 1970 to 0.7 percent by 2007. We return below to the issue of bank reserve levels in the aftermath of the crisis.

<sup>&</sup>lt;sup>58</sup> The movements in commercial banks' reserve requirements are presented in Feinman (1993), with updated figures in http://www.federalreserve.gov/releases/h3/hist/annualreview.htm#reservetranche









Had something akin to the Glass-Steagall regulations been still operating, the leveraging ratios and bank reserve ratios would not have been permitted, regardless of the low-interest rate regime. What is also clear is that the Fed's action of responding to the financial bubble by increasing the federal funds rate from 2004-09 was not sufficiently forceful to discourage the momentum that had already begun as a result of financial deregulation.

#### **Counteracting Recession**

The problem of transmission of monetary policy actions is equally evident in the period subsequent to the 2008 financial crisis. As we saw in Figure 17.3, the Fed aggressively pushed the federal funds rate down, beginning in mid-2007 as the financial market crisis began to spread. After peaking at 5.26 percent in July 2007, the Fed pushed this rate down to 0.15 percent as of January 2009. Between then and this





writing (February 2013), the fed funds rate has ranged between 0.07 and 0.22 percent. Moreover, Chair Bernanke announced in December 2012 that the Fed anticipated holding down rates at near zero at least until the unemployment rate fell below 6.5 percent and inflation rose above 2.5 percent. This alone is a dramatic indicator of how financial market conditions affect macro policy. The extraordinary depth and severity of the recession has led the Fed to target its policy interest rate at its lowest levels in history, just as the recession also pushed fiscal deficits to their largest levels since World War II.

However, this highly aggressive policy has had only a weak impact—here again, in a pattern comparable to the experience of the ARRA fiscal intervention. One crucial factor has been the fact that the financial markets continue to operate at extremely high risk levels and correspondingly high risk perceptions. As such, even with the federal funds rate at near zero, the spread between the risk-free rates and the rates for private borrowers has been unprecedented

We can see this, for example, in Figure 17.5, which again shows the movements of the federal funds rate, but now along with the Baa corporate borrowing rate and the rate on 5-year U.S. Treasury Bonds from 2007.01 – 2013.1. Focusing first on the Baa rate, this applies to corporations that are safe enough to obtain an investment-grade bond rating while still being at the high-risk end of investment-grade bonds. The rates that would apply to non-corporate businesses would generally be higher than the Baa rate, as they would be perceived as more risky than an average corporation. As Figure 17.5 shows, the Baa rate did fall in correspondence with the Federal Reserve maintaining the federal funds rate at close to zero since 2009.01. However, the decline of the Baa rate is relatively modest, especially given the Fed's extremely accommodating policy stance. Thus, by 2008.12, the federal funds rate had been pushed down to 0.2 percent, while the Baa rate was still at 8.4 percent. Three full years later, with the federal funds rate holding steady at near-zero, the federal funds rate as





of 2011.12 was still at 5.3 percent, which is an historically high rate in real terms. One additional year later, in 2012.12, the Baa rate had gotten down to 4.6 percent. But still, after four years of a near-zero interest policy with the federal funds rate, the decline of the Baa rate was still much more modest than that of the federal funds rate. Overall then, the fact that the Baa rate did not fall at a rate that was anything close to federal fund rate decline over the four year period from 2008 – 2012 is a measure of the high level of risk perception in the financial markets. This is a measure of the extent to which financial market conditions had weakened the capacity of monetary policy to intervene effectively with countercyclical policies.

Figure 17.5 Interest Rates for Federal Funds, 5-Year Treasury Bonds, and Baa Corporate Bonds, 2007.01 - 2013.01



The Fed has tried to address this problem through attempting to directly influence long-term interest rates. This has been the core principle behind the three rounds of so-called "quantitative easing" policies. Under quantitative easing, the Fed purchases





long-term Treasuries on the open market, as opposed to shorter-term Treasury bills. As we also see in Figure 17.5, this did succeed in pushing long-term Treasury rates down. However, still, as we see, the BAA rate remained high. More specifically, the spread between the long-term Treasury rate and the Baa rate expanded for most of the period since the end of 2008, in a pattern comparable to the rising spread between the federal funds rate and the Baa rate. This result should not be surprising, since it is the same phenomenon of a higher level of financial market risk that is increasing the spread between the default risk-free bonds and the bonds that carry default risk.

Still further evidence on the weakness of traditional monetary policy during the great recession has been the fact that U.S. commercial banks and other depository institutions operating in the U.S. have built up huge cash reserve over the period in which they have been able to borrow money nearly for free. Figure 17.6 shows the level of cash reserves held by U.S. commercial banks and other depository institutionsincluding savings banks, savings & loans, cooperative banks and credit unions-between 2001 and the second quarter of 2011 (the most recent data available). As the figure shows, between 2001 and 2007, the depository institutions held between about \$65 and \$75 billion in vault cash and reserves. The banks then increased these holdings to \$918 billion in 2008, between 2007 and 2008 that was an \$843 billion increase. By the end of 2011, bank cash and reserve holdings had increased still further to an astronomical \$1.6 trillion, which is more than 10 percent of U.S. annual GDP for 2011. Of course, banks need to maintain a reasonable supply of cash reserves as a cushion against future economic downturns. As we saw above, one major factor contributing to the 2008-09 crisis was that banks' cash reserves had fallen far too low. But increasing reserves to \$1.6 trillion is certainly a new form of financial market excess.59

<sup>&</sup>lt;sup>59</sup> Recognizing the high level of prevailing market risks as of 2011, Pollin (2012) considers what would be an appropriate level of reserve holdings.





# Figure 17.6 U.S. Depository Institutions Vault Cash and Reserves, 2001 - 2011



Over this same period that the depository institutions built up these massive cash reserves, credit stopped flowing into the non-corporate business sector in the U.S., as we discuss in detail in Chapter 10, "Sources of Funds for Business Investment." For these smaller businesses, total borrowing fell from \$530 billion in 2007 to negative \$202 billion in 2010—a roughly \$730 billion reversal. The non-corporate business sector overall continued to obtain zero net credit over both 2011 and 2012. This pattern is especially damaging coming out of the severe employment crisis created by the recession, since, on average, smaller businesses are relatively labor intensive, and thus typically serve as a major engine of job creation during economic recoveries.

These conditions in credit markets over the Great Recession and subsequently are hardly unique relative to previous recessions, in the U.S. and elsewhere, and the 1930s Depression itself. Indeed, this contemporary experience represents just the most





recent variation on the classic problems in recessions in reaching a "liquidity trap" and trying to "push on a string." This is when banks would rather sit on cash hoards than risk making bad loans, and businesses are not willing to accept the risk of new investments, no matter how cheaply they can obtain credit. Under such circumstances, conventional central bank open-market operations—i.e. lowering the target short-term policy—is greatly weakened as a tool for pushing an economy out of a recession and toward a healthy recovery.

There has been some limited discussion about what policy options may be available once the economy has fallen into a liquidity trap. These proposals were mostly introduced in the literature in response to the Japanese deflation and liquidity trap of the 1990s. The two most prominent are 1) to raise the economy's inflation rate target or 2) to depreciate the currency. Pollin (2012) reviews these proposals, arguing that they are not likely to be effective in the current U.S. circumstances. Another set of proposals is for the Federal Reserve to intervene to directly reduce long-term interest rates that, as we have seen, have not fallen commensurately with the decline in the federal funds rate. This approach is more promising, insofar as the proposals are aimed directly at lowering long-term rates on business loans, as opposed to long-term Treasury rates. However, Pollin (2012) argues that the two most promising interventions would be: 1) instituting an excess reserve tax, or its equivalent, to create a direct disincentive for banks to hoard cash; and 2) expanding the federal government's loan-guarantee program to smaller businesses, thus directly counteracting the economy's aggregatelevel risk constraint. These measures are targeted precisely to influence important features of the liquidity trap, while they could also be undertaken readily and at low cost using existing federal government policy tools.

For our purposes here, the overarching theme is that the transmission of monetary policy in the U.S. economy changes dramatically as a result of financial market conditions. In particular, over the Great Recession, the Federal Reserve has been highly





aggressive in utilizing its main standard policy tool, of lowering the federal funds rate. But with the economy mired in a liquidity trap, the Fed has also aggressively pursued less standard "quantitative easing" policies. These have also provided only limited effectiveness, if at all, in moving the economy onto a solid recovery path. As we have seen, the key problem here has been the massive imbalances in the financial markets. This has broken the channels through which movements in the federal funds rate or even long-term Treasury rates can influence overall macro activity.





### Chapter 18 Globalization and the U.S. Financial System

Globalization of finance takes a number of forms, from the greater integration of financial markets across borders, to an expansion in the volume of international financial flows, to financial institutions and banks operating in multiple countries. Within the global economy, the U.S. has occupied a unique and privileged place in the system of international finance. The dollar remains the dominant currency for international transactions and, therefore, the most important source of foreign exchange globally. The dollar held this dominant position during the Bretton Woods system, and this situation has continued since the collapse of the Bretton Woods arrangement in 1971. Because of its role in international markets, the U.S. financial system has exhibited a strong international character for a significant period of time. Nevertheless, since the 1980s, the pace of integration of global credit markets and financial institutions has accelerated. Recently, the contagion from the 2007-09 financial crisis, particularly with regard to countries in Europe, demonstrated the interconnectedness of U.S. markets to the rest of the world.

This chapter presents an overview of the extent of globalization of U.S. financial markets and institutions. The globalization of finance is examined from two perspectives: 1) the global nature of U.S. credit markets and banks; and 2) the nature of cross-border financial flows, including investment flows. In general, the indicators suggest that there has been an acceleration in the global integration of U.S. finance, particularly since the 1980s. This is consistent with broad international trends linked to processes of financial liberalization which were underway in many parts of the world (Goldberg, 2009). This growing integration has numerous policy implications. As we will discuss, it has affected the conduct of monetary policy, the transmission channels for economic shocks, and concerns over financial volatility and the broader propensity towards regular economic crises.

#### U.S. Financial Markets within a Global System





Since the 1980s, U.S. credit markets have become increasingly integrated as the major player within the global financial system.<sup>60</sup> Indeed, D'Arista and Erturk argue that it is misleading to describe the global financial system as operating primarily through distinct national economies, in which financial flows are driven by trading relationships between countries. Even considering the U.S. economy and financial system, D'Arista and Erturk argue that it is more accurate to describe a single transnational financial system in which various countries, including the U.S, all operate. They write as follows:

The conventional view... implicitly presupposes an international economy consisting of distinct national economies with their own separate systems of financial intermediation that are tied to each other mainly through trade-a world where financial assets are traded to move goods, where central banks are in control of credit growth within their borders, and where current account transactions are the main determining factor in moving capital flows and exchange rates. Such a view is inconsistent with the increasingly transnational world that has come into being as a result of the rapid acceleration of financial globalization over the last two decades. The expansion of cross-border financial transactions, already beginning to outstrip the expansion of trade in goods as early as the 1970s, has increased at a spectacular pace since the 1990s and has spread—though faster in some groups of countries than others—worldwide. In this new world, it is misleading to assume that trade in assets is still the same as trade in goods. The notion of a unified and globally integrated process of financial intermediation today is far from an empty supposition (2013, pp. 232-33).

<sup>&</sup>lt;sup>60</sup> Two recent survey articles that examine this process of increasing integration in the global financial system are Taylor (2010) and D'Arista and Erturk (2013).





### Figure 18.1



#### Source: U.S. Flow of Funds Accounts.

Considering the U.S. in this way, as part of a globally integrated financial system, it is still nevertheless imperative that we understand the specific patterns of credit flows within this global system. The first key observation here is that the U.S. economy has experienced a large increase in inward credit flows. By contrast, foreign borrowing in the U.S. credit market as a share of total credit has remained relatively constant over a long time period. Figure 18.1 tracks these trends over the period 1960 to 2011. On the creditor side, the figure shows foreign ownership of assets in U.S. credit markets as a share of total assets. On the borrower side, it shows the rest of the world's share of the total debt owed. Foreign ownership of U.S. debt increased rapidly beginning in the





1980s, reaching 17 percent of total credit market assets in 2011. The amount owed by foreign overseas entities in U.S. credit markets has not increased as significantly over this same period, rising from 3.0 percent of total debt in 1960 to 4.2 percent in 2011. These patterns show that the U.S. is a net borrower from the rest of the world, with foreign sources of credit becoming increasingly important in the domestic market.

U.S. Treasury bonds and corporate bonds are the two most important categories of credit market assets held by the rest of the world in recent years (Figure 18.2). These two categories of credit have accounted for between 70 and 83 percent of all foreign credit to U.S. markets from 2000 to 2011. Agency and GSE (government sponsored enterprises) securities also represent a significant category of foreign credit supply. These securities are issued by the major government sponsored players in the U.S. mortgage market, such as Fannie Mae and Freddie Mac, and by other agencies involved in government sponsored credit programs, such as student loans for higher education. Through these channels, foreign sources of credit have been tied to mortgage lending in the U.S. (Knight, 2006). With the onset of the 2007-09 economic crisis in the U.S., there has been a shift away from corporate bonds and GSE securities and towards U.S. Treasury bonds, which are perceived to be safer.





### Figure 18.2



Source: U.S. Flow of Funds Accounts.

There has been notable growth in the presence of foreign banks operating in the U.S., particularly from the mid-1980s to the late 1990s. Figure 18.3 shows the assets of foreign bank offices operating in the U.S. as a share of total assets of all private depository institutions from 1960 to 2011. In the most significant period of expansion, the asset share of foreign banks grew from 4 percent in 1984 to reach a peak of 14 percent in 1997. After 1997, the asset share of foreign banks declined due to a more rapid expansion of the assets of U.S. banks and stagnation in the size of the assets of foreign bank offices in the U.S. However, with the onset of the crisis, the assets share of





foreign banks began to grow again, returning to 14 percent of the assets of all private depository institutions in 2011.

# Figure 18.3



Source: U.S. Flow of Funds Accounts.

U.S. banks have also become more globalized, as they expanded their operations in other countries. If global banks are defined as U.S. banks that report positive assets from offices in other countries, then global banks accounted for half of U.S. banking assets in the early 1990s, increasing to approximately 70 percent of assets by 2005





(Cetorelli and Goldberg, 2009). The expansion of U.S. banks into overseas markets includes many developing countries. For instance, from 1990 to 2003, the value of U.S. acquisitions of banks in developing countries has been higher than the value of bank acquisitions of most other high income countries (Goldberg, 2009). Foreign lending by U.S. banks has a regional character, with Asia and the Pacific and Latin America and the Caribbean being particularly important (Goldberg, 2009).

#### **Cross-Border Flows**

Cross-border financial flows represent a critical aspect of how the U.S. is integrated into global markets. The U.S. has been dependent on foreign savings for the past three decades. Trends in the balance of payments position of the U.S. economy illustrate these relationships. The U.S. economy has run a current account deficit almost every year since 1982 (Figure 18.4).<sup>61</sup> The current account deficit has emerged in conjunction with the country's long-term trade deficit, with the value of U.S. imports exceeding the value of its exports. In contrast, net income receipts from activities other than trade in goods and services (e.g. repatriated profits, interest income, etc.) have been in surplus with current receipts from abroad exceeding payments to other countries. The ability of the U.S. to sustain a current account deficit year after year is partly due to the dollar's privileged position as the dominant international reserve currency. However, the U.S. economy also receives sizeable capital inflows which allow it to finance its current account.

<sup>&</sup>lt;sup>61</sup> The exception is 1990 in which the balance of payments data from the U.S. Bureau of Economic Analysis show a very small surplus.





### Figure 18.4



Source: U.S. Bureau of Economic Analysis.

Figure 18.5 shows the annual change in asset positions associated with the U.S. balance of payments - i.e. the change in U.S. owned assets abroad and foreign owned assets in the U.S. - expressed as a percentage of GDP. There has been an increase in the relative size of both categories of asset positions over time, suggesting that cross-border financial flows, relative to the size of the U.S. economy, have increased in significance over time. The growth is particularly noticeable from the 1990s up until the 2007-8 financial crisis. As would be expected, the relative size of U.S. owned assets





abroad and foreign owned assets in the U.S. follows a pattern consistent with the trends in the U.S. current account. Up until 1982, capital outflows from the U.S. often exceeded capital inflows from the rest of the world, although precise balance would vary from year to year. Since 1982, with a sustained current account deficit, capital inflows have exceeded outflows as the U.S. became dependent on foreign savings to finance the deficit.

# Figure 18.5



Source: U.S. Bureau of Economic Analysis





### Figure 18.6



Source: U.S. Bureau of Economic Analysis.

Foreign direct investment into the U.S. accounts for a relatively small percentage of total capital inflows, although direct investment flows are variable and their share in total inflows fluctuates significantly from year to year. From 2001 to 2011, direct investment accounted for about 16 percent of total capital inflows. Figure 18.6 shows trends in inward foreign direct investment relative to the size of the U.S. economy. Since the 1980s, inflows of foreign direct investment have been between 0.5 percent and 2 percent of U.S. GDP, averaging 1.3 percent of GDP from 1985 to 2011. The exceptions





were the years 1998 and 1999, in which foreign investment jumped up to about 3 percent of GDP.

## Figure 18.7



Source: U.S. Bureau of Economic Analysis.

Foreign direct investment can affect the globalization of finance, particularly when the direct investment is in the financial sector. The financial sector accounts for a significant share of both inward and outward foreign direct investment. Over the period 1999 to 2011, approximately 23 percent of inward FDI and 18 percent of outward FDI was directed at financial activities. Figure 18.7 shows the share of U.S. direct investment, inward and outward, in financial activities for each year from 1999 to 2011.





The share of finance in direct investment fluctuates over time, and has reached 40 to 50 percent of either inward or outward direct investment in specific years.

# Figure 18.8





Since direct investment accounts for a relatively small share of total capital inflows, other flows, including portfolio investment, are important for financing the U.S. current account deficit. These investment flows represent an important aspect of the globalization of U.S. financial markets and are directly linked to the globalization of credit markets examined earlier. Figure 18.8 shows the composition of recent short-





term and long-term portfolio investment into the United States for selected years. Equities account for just under a third of asset holdings. The remaining categories of portfolio investment represent credit market assets, with government securities and corporate bonds dominating. As noted previously, agency and GSE securities represent a smaller, but still significant, category of portfolio investment.

#### The Global "Saving Glut" and Financial Crisis

The fact that the U.S. relies on foreign savings to finance its current account deficit also means that other countries are net creditors to the U.S. Successful export-led economies, China in particular, are a major source of such financing. The existence of large pools of foreign savings from important emerging economies which are being held as U.S. financial assets been described as a "global savings glut." Many analysts, including Federal Reserve Chair Ben Bernanke, have argued that this large supply of savings relative to demand helped keep U.S. interest rates on long-term government securities low, even as the Federal Reserve raised the policy interest rate (the federal funds rate) significantly between 2004 and 2006 (Bernanke et al., 2011; see our related discussion in Chapter 9 on "Sources of Funds"). This suggests that capital flows respond to perceptions of risk in addition to returns and this can affect the transmission of monetary policy from short-run policy rates to long-term interest rates. Research suggests that the global savings glut countries - those with significant current account surpluses - primarily invested in U.S. Treasuries, which were perceived to represent low-risk global assets. However, in the years preceding the 2007-08 financial crisis, there was also significant foreign investment in mortgage backed securities and agency/GSE securities, much of which was also considered to be low-risk. This investment did not come primarily from countries with large current account surpluses, but it appears to have originated in several European countries which financed investment in U.S. asset-backed securities through capital inflows of their own





(Bernanke et al., 2011). This created a pathway through which the problems in the U.S. sub-prime mortgage market could be transmitted to economies in Europe.

The 2007-09 financial crisis provides a compelling example of how financial globalization creates pathways of contagion through which economic crises can be transmitted across national economies. Financial globalization created the conditions for the transmission of a variety of economic shocks, both real and monetary, across countries, including shocks to GDP (Goldberg, 2009). For instance, a recent study examined the channels through which U.S. GDP shocks are transmitted across industrialized countries and found that the variables with the largest spillover effects are financial in character - e.g. interest rates, bond yields, and equity prices (Bayoumi and Swiston, 2007). Similarly, financial channels appeared to play an important role in transmitting shocks in the U.S. economy to countries in Latin America (Canova, 2005).

Crotty (2009) provides a broader perspective on the channels through which the global "New Financial Architecture" (NFA) created the conditions that produced the global financial crisis. Some of the main factors he highlights include the following:

1. The NFA "is based on light regulation of commercial banks, even lighter regulation of investment banks and little, if any regulation of the 'shadow banking system,'" (p. 564).

2. The NFA has widespread perverse incentives that create excessive risk, exacerbate booms, and generate crises. "For example, the growth of mortgage securitization generates fee income—to banks and mortgage brokers who sold the loans, investment bankers who packaged the loans into securities, banks and specialist institutions who serviced the securities and rating agencies who gave them their seal of approval. Since fees do not have to be returned if the securities later suffer large losses, everyone involved had strong incentives to maximize the flow of loans through the system whether or not they were sound, " (p. 565).





3. "Innovation created important financial products so complex and opaque they could not be priced correctly; they therefore lost liquidity when the boom ended," (p. 566)

4. "Regulators allowed banks to hold assets off balance sheet with no capital required to support them," (p. 570).

5. "Heavy reliance on complex financial products in a tightly integrated global financial system created channels of contagion that raised systemic risk," (572).

### Conduct of U.S. Monetary Policy

We discuss in Chapter 17 the various ways in which the conduct of U.S. monetary policy is affected by the changing financial structure, including especially since the early 2000s. Global financialization plays an important role here. In Chapter 17, we focus primarily on the case of expansionary monetary policy in the aftermath of the 2007-09 crisis. But a parallel set of problems also arises when the Federal Reserve seeks to introduce restrictive monetary policies. As with expansionary policy, restrictive monetary policies aim to influence economic activity and price levels through a lending channel - i.e. affecting the cost and availability of credit through its impact on the ability of banks to obtain reserves. Therefore, the effectiveness of monetary policy would be weakened if banks have access to alternative sources of reserves when the central bank restricts liquidity. Thus, banks with global operations may respond to a restrictive monetary policy shock by drawing on overseas sources of liquidity within their internal networks. Cetorelli and Goldberg (2008) present evidence that this has been increasingly the case for U.S. banks. More globalized banks therefore have the capacity to limit the effectiveness of domestic monetary policy. Global banks, in turn, tend to be larger institutions. As a result, restrictive monetary policy will have a larger impact on smaller, domestic banking institutions. The trend toward more consolidated, increasingly globalized banks in the U.S. has important implications for the conduct of monetary policy. For example, Cetorelli and Goldberg find that restrictive monetary





policy does have an effect on the cost of credit of global banks operating offices in other countries. This implies that financial globalization creates channels through which monetary policy affects credit conditions elsewhere, but limits its effectiveness domestically.

#### Interactions between the Euro Zone and U.S. Financial Markets

The introduction of the Euro as a new currency in 1999 represented the most significant innovation in international finance for decades. Despite its relatively short existence, the Euro has emerged as an important and credible global currency, and many Euro-denominated securities are actively traded and used to raise external financing. The creation of the Euro Zone raised the possibility that the new currency had the potential to displace the U.S. dollar as the dominant international reserve currency, particularly given persistent U.S. current account deficits which could place pressure on the dollar. If the Euro were to displace the dollar, we would expect to see significant portfolio shifts in foreign exchange holdings from the dollar to the Euro. Since the introduction of the Euro, the currency has made modest gains in terms of the share of total global reserves, yet the share of currencies in foreign exchange reserves has remained quite stable over time (Papaioannou, Portes, and Siourounis, 2006). Some of the gains the Euro has made have come at the expense of other non-dollar currencies e.g. the Japanese yen. Nevertheless, in 2011, the Euro accounted for just a quarter of all foreign exchange reserves compared to over 60 percent for the U.S. dollar (IMF, 2012). Moreover, the dollar remains particularly dominant in the foreign exchange holdings of developed, high-income countries, with deeper and more extensive financial markets (IMF, 2012). The sovereign debt crisis among many Euro Zone countries has further raised doubts that the Euro will supplant the dollar as the dominant international currency in the foreseeable future (Guttmann and Plihon, 2013).

In many respects, the banking sector within the Euro Zone is comparable to the banking sector in the U.S. economy along a number of dimensions. For example,





according to the European Banking Federation (EBF), in 2011 both the U.S. and the Euro area had 6,200 banks which employed 2 million people (EBF, 2012). However, banks within the Euro area had approximately three times the assets and deposits of U.S. banks, reflecting the greater relative importance of bank-based financial institutions in Europe (EBF, 2012). Moreover, there is some evidence that competition among banks is lower in Europe compared to the United States and that banking competitiveness declined in Europe after monetary union (Sun, 2011).

Despite the on-going integration economic and monetary integration within Europe, integration of commercial banks has been slower - including with respect to crossborder flows between retail banks and cross-border bank mergers (Gropp and Kashyap, 2009). Other credit markets, including money markets and government bond markets, appear to be much more integrated within Europe than commercial banking. Because banking integration has lagged behind other aspects of economic, monetary, and financial integration, the process of integration within Europe has not had a clear effect on U.S. financial markets. This does not imply that European and U.S. banks have failed to globalize in ways that link credit markets and change the environment within which these institutions operate. European banks operate in the U.S. and U.S. banks operate in Europe. However, this process of financial globalization involved the expansion of international activities by particular banking institutions operating in a specific national context and was not driven by integration within the Euro area. For example, important European banks operating in U.S. markets include banks based in Switzerland, which is not part of the European Union, and banks based in the U.K., which is not part of the Euro Zone.

Overall then, the U.S. financial system has been central to the global economy throughout the post World War II era. However, credit markets, the banking sector, and cross-border financial flows have all become increasingly globalized since the 1980s. The dollar remains the dominant reserve currency internationally, which provides the





U.S. economy with a privileged position within global financial markets. The trend towards financial globalization has changed the effectiveness of domestic macroeconomic policies. Specifically, the globalization of finance and the effect of cross-border financial flows appear to weaken the impact of monetary policy on domestic credit conditions, with smaller, less globalized financial institutions more likely to serve as a channel for monetary policy. In addition, the globalization of U.S. financial markets has created new channels for economic shocks to be transmitted to other countries, as was evident during the 2007-09 financial crisis.





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## THE ABSTRACT OF THE PROJECT IS:

The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?'



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## THE PARTNERS IN THE CONSORTIUM ARE:

Participant Number	Participant organisation name	Country
1 (Coordinator)	University of Leeds	UK
2	University of Siena	Italy
3	School of Oriental and African Studies	UK
4	Fondation Nationale des Sciences Politiques	France
5	Pour la Solidarite, Brussels	Belgium
6	Poznan University of Economics	Poland
7	Tallin University of Technology	Estonia
8	Berlin School of Economics and Law	Germany
9	Centre for Social Studies, University of Coimbra	Portugal
10	University of Pannonia, Veszprem	Hungary
11	National and Kapodistrian University of Athens	Greece
12	Middle East Technical University, Ankara	Turkey
13	Lund University	Sweden
14	University of Witwatersrand	South Africa
15	University of the Basque Country, Bilbao	Spain

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