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The financial crisis: what lessons can be learned?

Abstract: Many are currently studying the origins of the financial crisis in an attempt to answer two seemingly simple questions: why did it happen, and can another crisis be prevented? Those two questions have proved incredibly divisive. The majority opinion of The United States Financial Crisis Inquiry Commission was submitted with two dissenting positions. Furthermore, The 2010 Economic Report of the United States President does not perfectly align with any opinion presented in that report. Few studies, however, provide proper consideration to the evolution of macroeconomic thought and lengthening of the business cycle preceding the current crisis.

Keywords: financial crises, The United States Financial Crisis Inquiry Commission, The 2010 Economic Report of the United States President, Keynesian Theory, adaptive expectations, rational expectations, monetary and fiscal policies, business cycles, regulations, General Agreement on Tariffs and Trade (GATT), World Trade Organization (WTO), trade liberalization, United States, China, Euro, econometric policy evaluation.

JEL codes: B0, E0, E3, E4, E5, E6, F0, F3, F4, G0, G01, H3, H6, K2, O51, P1, R3.

Introduction

This paper provides an overview of the evolution of macroeconomic thought from 1936, the year John Maynard Keynes published his general theory of employment, interest and money to the year 2010. It explores the reasons for the extension of the business cycle during the postwar period. Subsequently, the paper discusses the decline in the popularity of the Keynesian theory and the return to classical economic principles. This paper outlines the findings of the United States Financial Crisis Inquiry Commission, including the two dissenting positions. It then presents the view of the United States Administration under President Barack Obama as presented in The 2010 Economic Report of the President. It also provides a European perspective on the background of the recent crisis.

The paper is divided as follows: Section II presents the theoretical base of macroeconomic evolution, the Post-Second World War Keynesian consensus, its breakdown in the 1970s and the search for a new consensus since. Section III studies the origins of the 2008–2009 global financial crisis by presenting both the majority and dissenting views of the Financial Crisis Inquiry Commission (FCIC), which was appointed by the United States Congress. This section also includes the official view of the executive branch of the U.S. government by studying The 2010 Economic Report of the President. Section IV provides the European perspective on macroeconomics of the crisis and potential regulatory policy. Section V concludes and summarizes the main findings of the paper and outlines major implications of the recent experience for the way economics might be taught.

1. Economic and theoretical background of macroeconomic evolution

The periods from 1945 to 1973 and the late 1990s to mid-2007 were prosperous world wide. Both globally and within regional integration groups, world product grew faster than population growth¹. The increased volume of international trade led to a better allocation of resources, increased productivity and also to higher global interdependence. Development of trade relations was possible due to consecutive rounds of trade liberalization within the General Agreement on Tariffs and Trade (GATT), establishing the World Trade Organization (WTO) in 1995, and the acceptance of the People's Republic of China (PRCh) to that organization in 2001.

The aforementioned economic processes were both reflected in and influenced by the development of the economic situation in the largest economy of the world, the United States (Table 1).

As shown in Table 1, there were eleven full business cycles between February 1945 and June 2009. The average duration of contractions was over ten months and the longest was eighteen months. The average expansion was almost six times longer than the average contraction. The longest expansion was one hundred and

¹ Among regional integration groupings the establishment and development of the European Union was the greatest success. Other major groupings include North American Free Trade Agreement (NAFTA), MERCOSUR (Mercado Común del Sur in Spanish), and the Association of South East Asian Nations (ASEAN). MERCOSUR is an economic and political agreement between Argentina, Brazil, Paraguay and Uruguay founded in 1991 by the Treaty of Asunción. ASEAN was established in 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by Indonesia, Malaysia, the Philippines, Singapore and Thailand. Later, Brunei Darussalam, Vietnam, Lao PDR and Myanmar, and Cambodia joined. Today, these ten nations comprise the Member States of ASEAN.

Table 1. Business cycles and the length of business activity growth and decline phases (in months) in the United States after 1945

Business cycle turning points		Length (in months)	
Peak	Bottom	Decline phase	Growth phase
1945 (February)	1945 (October)	8	80
1948 (November)	1949 (October)	11	37
1953 (July)	1954 (May)	10	45
1957 (August)	1958 (April)	8	39
1960 (April)	1961 (February)	10	24
1969 (December)	1970 (November)	11	106
1973 (November)	1975 (March)	16	36
1980 (January)	1980 (July)	6	58
1981 (July)	1982 (November)	16	12
1990 (July)	1991 (March)	8	92
2001 (March)	2001 (November)	8	120
2007 (December)	2009 (June)	18	73

Source: Own compilation based on US business cycle expansions and contractions, NBER.

twenty months. The range of fluctuations in the post-war cycles was considerably smaller than before 1945.

1.1. Post-war Keynesian consensus

The simultaneous development of postwar World War II economies and economic thought can be divided into two periods – from 1945 to 1973 and from the mid-1970s to 2008. During the first period, postwar reconstruction, technological progress, a large supply of qualified workers, and active stabilization policies within the Bretton Woods System caused the American, European, and Japanese economies to grow at a relatively high and stable pace. Widespread acceptance and application of the adaptive expectations hypothesis (AEH) influenced development in the field of positive economics, studies on investment, consumption, and economic growth mechanisms.

The field of normative economics was dominated by various versions of Keynesian economics and recommendations concerning the preconditions for the effectiveness of active economic stabilization policy. The economic stabilization policy had two elements. The first element was active, discretionary government actions utilizing

instruments of fiscal and direct control policy. The second element was the role of the central bank through the use of both monetary and exchange policies in order to counteract or alleviate fluctuations in business activity. The aim of these policies was to get as near as possible to “full employment” and maintain a low inflation rate without deteriorating of the balance of payments (Kowalski 2001, p. 8). The issue of developing and implementing such a stabilization policy is highly complex due to the multiplicity of economic policy objectives and time lags. The economics of the 1950s and 1960s, however, proved that it was successfully implemented as is evident by Table 1 (see also Marglin & Schor 1990; Crafts & Toniolo 2008; Eichengreen 2007).

Due to relatively low international capital flows and the fixed exchange rate system of the time, the instruments of fiscal policy played a major role in the active, discretionary economic stabilization policy. In that period, only the United States Federal Reserve Bank (Fed) and the central bank of the Federal Republic of Germany (Deutsche Bundesbank) enjoyed formal political independence. Due to the fixed exchange rate regime, however, both the Fed and the German central bank’s functional independence were limited. Stable years of rapid economic growth in the United States, Japan and Western Europe were considered the golden age of capitalism (Marglin & Schor 1990).

1.2. The 1970s and beyond – the search for a new consensus

The second period of post-war economic history, after the breakdown of the Bretton Woods system and the acute 16-month recession of 1973–1975 (Table 1), was characterized by the polarization of the then thought within the positive and normative approaches. The positive approach concerned diagnosing the causation mechanism of the recession and stagflation. The normative approach concerned the scale and scope of the autonomous capacity of the market economy to return to equilibrium. Since the mid-1970s, the evident decline in the efficiency of active economic policy rooted in Keynesian recommendations has been accompanied by the resurgence of concepts derived from classical economics. Macroeconomic theory adopted the Rational Expectations Hypothesis (REH) first introduced by John Muth (Muth 1961). The hypothesis gradually became the point of reference and evaluation for almost all schools of modern economics, particularly the new classical macroeconomics.

The REH emphasizes the result of the expectation-forming process. The expectation is defined as a function of maximization of usability and broadly understood quality and quantity of available information (Kowalski 1987). The REH was the basic element of the new classical macroeconomics and radically opposes normative recommendations of the Keynesian system. Over time, the REH was significantly moderated by various options of weak-form rationality. It became an important element in macroeconomic models underpinning the self-regulatory properties of the market system. With certain simplifications, the axis of the new consensus, in

macroeconomic sense, consisted of rational expectations and the ability of an economic system to perform autonomous, adaptive reactions in response to supply-and-demand shocks.

The revolt against the Keynesian school led to a reevaluation of the theory for formulating expectations. The result was the rejection of the adaptive expectations hypothesis. Consequently, reinterpretation included the role of the State in the economy, the importance of institutional conditions, self-regulatory capabilities of the market system, methodology and techniques of statistical hypothesis verification, and analysis formalization (Kowalski 2001).

The methodological breakthrough includes variables representing rational expectations in the models. The seminal works of Robert Lucas (1973), Thomas J. Sargent and Neil Wallace (1973), in particular, contributed significantly to this transition (see also Fischer 1980; Lucas 1987; Sargent 1986; Sheffrin 1996).

Simultaneously, but off the mainstream economics studies were conducted on the behavior of business entities assuming their limited rationality as defined by Herbert A. Simon (1982, see also Kowalski 2002). These studies imply that the expectation formulation process is slower than the REH assumes and that the process may include errors. For years this field of research remained outside the mainstream macroeconomics, but served as an intellectual cornerstone for developing of financial and behavioral economics (Polowczyk 2010).

The REH and the equilibrium paradigm constituted a strong starting point for a new description of how financial, exchange markets, product markets, employment markets, and the economy as a whole function². It is worth noting that the hypothesis, and the recognition of the importance of expectations in designing and implementing monetary policy, has led to profound revaluations in this field. The hypothesis also served as an important foundation for institutional strengthening of the position of central banks, and the popularization of the direct inflation targeting (DIT) strategy.

The role of expectation formulation mechanisms drew the attention of theorists and practitioners of economic policy. This trend was further strengthened by the globalization of economic processes, new information technologies, and mutually related features of growth in information supply and the difficulty of its selection. The combination of such factors enhanced the importance of expectations. It also stressed the importance of transparency in designing and implementing macroeconomic policy. This is done in order to simplify the formulation

² A breakthrough in the philosophy of modeling the changes of economic policy was marked by the paper by R. Lucas entitled *Econometric Policy Evaluation: A Critique*, in: *The Philips Curve and Labor Markets*, K. Brunner, A.H. Metzler eds., Oxford University Press, Amsterdam 1973. Gradually, under the influence of R. Lucas' arguments and the progress in econometric modeling of macroeconomic processes based on microeconomic grounds, macroeconomic, stochastic models of general balance (DSGE) began to prevail.

of expectations by economic agents and thus serves as an important channel of economic stabilization.

A major feature of contemporary economy is the dynamic growth of international trade, mobility of capital, and the domination of the floating exchange rate regime. The floating exchange rate system, combined with the prominent position of increasingly independent central banks created a new environment for economic policy. The emergence of these processes and the deepening of economic integration, by establishing the Economic and Monetary Union of the European Union in 1999, gradually decreased the scope of national discretionary economic policies and simultaneously increased the importance of autonomic market adjustments.

The dynamics of capital markets and their roles in economic growth are once again a subject for theoretical and empirical research. A wide range of approaches is being deployed to comprehend the empirical paradoxes of capital markets by applying the rational expectations hypothesis (Kurz, Hechui & Motoleses 2005; Scheinkman & Xiong 2005; Weitzman 2005). These works incorporate theoretical finance into mainstream economic theory.

2. Origins of the 2008–2009 global financial crisis

2.1. The United States Financial Crisis Inquiry Commission (FCIC) Report

The conclusions of the FCIC's majority primarily ascribe the cause of the financial crisis to a lack of government regulation and oversight in the mortgage and mortgage-backed securities market. Low interest rates, easily attainable credit, lax regulation and toxic mortgages spurred the rapid deflation of the housing bubble. That collapse catalyzed a series of events that resulted in crisis by autumn of 2008. Hundreds of billions of dollars in losses from mortgages and mortgage-related securities shook both the real and the financial markets. Financial institutions that had overexposed themselves to those mortgages and borrowed significantly against them were facing bankruptcies. Global losses were magnified by derivatives, particularly synthetic securities. The collapse of Lehman Brothers and the precarious situation of American International Group (AIG) brought the crisis to its peak. The Commission concludes that the crisis was avoidable and stemmed from failures in regulation and supervision. The union of rampant borrowing, risky investments, and a stark lack of transparency throughout the financial system caused the implosion.

The majority identifies the critical role of the expanded financial sector. In 1987, the financial sector controlled \$3 trillion in debt; by 2007, that number had grown twelvefold to \$36 trillion. During this time, Wall Street experienced a remarkable

transformation. Firms morphed from largely steady private partnerships to unwieldy publicly traded corporations actively pursuing a greater variety of risks and in much larger quantities. The financial sector also grew to comprise a more significant portion of the economy, namely 27% of all corporate profits.

The FCIC concludes, first and foremost, that the financial crisis was completely avoidable. The Commission places the blame for the crisis squarely on human action and inaction rather than computer error or random act of nature. The leaders of the financial sector, whose power grew exponentially from the 1980s to 2007, ignored warning signs and mismanaged risks intricately tied to the well being of their average citizens. The surge of subprime lending and securitization, rise in housing prices, predatory lending, household mortgage debt, and short-term “repo” lending markets are all red flags that went largely unnoticed. The Federal Reserve failed to stop the growth of toxic mortgages. The deregulation trend severely destabilized the financial markets. The Securities and Exchange Commission (SEC) failed to require additional capital for risky investment by the poorly regulated investment banks. Policy makers made no attempt to slow the ever increasing mortgage securitization.

Furthermore, financial institutions adopted flawed systems of corporate governance and risk management. In the absence of federal regulation, financial institutions failed to self-police and instead assumed higher risk backed by too little capital. These firms chased large profits without giving proper consideration to the large risks accompanying the profits. Employees of financial firms and credit rating agencies replaced human judgment with risk assessing mathematical models. The employee compensation structure exacerbated these risks, rewarding short-term gains with total disregard for long-term consequences.

The combination of excess borrowing, increasingly risky investments, and the lack of transparency caused the ensuing crisis. Both banks and consumers borrowed beyond their means. The five major United States investment banks (Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley) were leveraged as high as 40 to 1. At that ratio, a three percent drop in the value of assets can decimate a firm. Simultaneously, Fannie Mae and Freddie Mac, government-sponsored enterprises (GSEs) had a combined leverage ratio of 75 to 1 in 2007 and the amount of mortgage debt per household grew sixty three percent, from \$91,500 in 2001 to \$149,500 in 2007. The downturn thus wreaked havoc on both families and firms. Inconsistency in government policy by bailing some firms, but not others, further exacerbated this effect.

The majority of the Commission rejects alternatives considered in the dissents. It first rejects the notion that capital availability and excess liquidity, raised in the Hennessey, Holtz-Eakin, and Thomas dissent, was a cause of the crisis (see below). The majority dismisses this as a possible explanation because the availability of appropriately priced capital is generally an opportunity for economic expansion. Failures to control excesses were the principal causes of the crisis. The Commission

then addresses points made in the Wallison dissent. It disagrees with the position that Fannie Mae and Freddie Mac played any significant role as a cause of the crisis because even though the GSEs did participate in the expansion of subprime mortgages, they followed the lead of Wall Street. Lastly, the majority dismisses Wallison's second point that the government's housing policy precipitated the crisis because the Commission claims the goals only slightly contributed to Fannie Mae and Freddie Mac's participation in these mortgages. Government policy had historically incentivized homeownership through assistance programs and mandates. The Community Reinvestment Act's (CRA) only effect was to combat 'redlining,' or the practice of denying credit to individuals or businesses in certain geographic regions without any regard to the specific applicant's creditworthiness.

2.2. The Financial Crisis Inquiry Commission dissents

The Report includes two opinions dissenting from the FCIC majority's conclusions. The first is authored by Peter Wallison and ascribes blame largely to Fannie and Freddie's role in inflating the housing bubble that triggered the crisis. The second is authored by Bill Thomas, Keith Hennessey, and Douglas Holtz-Eakin and advocates a broader consideration of ten factors including the access to global financial markets.

As noted above, Wallison attributes the financial crisis primarily to the United States government housing policy seeking to increase homeownership. Wallison notes that the only means to achieve this end was through a concerted effort to reduce mortgage-underwriting standards. Lowering standards resulted in the creation of 27 million subprime and other risky loans, a value well beyond that which the free market would produce. The Department of Housing and Urban Development's (HUD) policy resulted in a more intense and longer lasting housing bubble than any other in history. This dissent identifies three primary mechanisms through which HUD pursued this policy: imposing the 1992 congressional affordable housing requirements on GSEs, its control over the policies of the Federal Housing Administration (FHA), and its „Best Practices Initiative” for subprime lenders and mortgage banks to encourage greater subprime lending in the private sector.

The GSE's Affordable Housing Mission affixed a quota for the percentage of Fannie Mae and Freddie Mac mortgage acquisitions that had to be loaned to low-and-moderate income (LMI) borrowers. That percentage was 50% in 2000 and 56% in 2008. In order to meet that quota, the GSEs were forced to cut the mortgage underwriting standards applied when acquiring loans from originators. The Community Reinvestment Act (CRA) of 1995 required insured banks to prove they were actually making loans to low-income borrowers in low-income communities. A qualifying loan under the CRA was one to a borrower at or below 80% of the area median income (AMI).

CRA policy paralleled that of HUD for the GSEs and forced them to compete with FHA and banks for the same mortgages. When coupled with HUD's Best Practices Initiative's explicit intent to reduce underwriting standards so as to increase access for low-income borrowers to mortgage credit, it formed the perfect condition for the next bubble. Government pursuit of a specific social policy, namely increasing home ownership by increasing the availability of mortgage credit to LMI borrowers had important consequences. Competition forced agencies and financial institutions to continue injecting money into the housing market long after the bubble would have deflated on its own.

In mid-2007 when the bubble began to burst, the loans created by government policies failed in astounding numbers. Those failings were intensified by the fact that few knew the GSEs had acquired so many subprime and other high-risk loans. The government rescue of Bear Stearns temporarily pacified investors but created a moral hazard. The calm proved short-lived after the Fed allowed Lehman Brothers to fail. This stopped lending.

Wallison underscores that the majority's allegation that 30 years of deregulation precipitated the crisis blatantly ignores the government's response to the Savings & Loan (S&L) crisis of the 1990s. After the S&L crisis, Congress adopted the FDIC Improvement Act, one of the most stringent bank regulatory laws in history. Wallison notes that if government housing policies caused the financial crisis, then the Dodd-Frank Act is purely an exercise in unnecessary legislative interference. The appropriate policy response is a reduction or elimination of government involvement in the residential mortgage markets.

In their dissent, Thomas, Hennessey, and Holtz-Eakin (2010) adopt a different approach. Thomas, Hennessey, and Holtz-Eakin criticize the majority for being overly broad and demanding blanket increases in regulation. They advocate adopting a more global perspective and identify "Ten Essential Causes of the Financial and Economic Crisis."

Firstly, they identify the formation of a credit bubble due to China and oil rich nations accumulating large capital surpluses and then loaning those savings to the United States and Europe, which caused interest rates to fall and credit spreads to narrow. Due to the cost of borrowing to finance high-risk investments decreasing in relation to safe assets like T-bills, a housing bubble emerged. Cheaply available credit buoyed the third cause, the rise of nontraditional mortgages. Credit ratings agencies and securitizers should have checked that growth, but the decrease in standards employed by those entities combined with borrowers' failure to conduct their own due diligence instead perpetuated the issue. Thus, the credit ratings agencies and securitizers are the fourth cause.

The fifth cause is the one typically identified in the media: financial institutions accumulating large concentrations of highly correlated housing risk that could not be diversified geographically. That accumulation is also attributable to the as-

sumption that there was an extremely low probability that housing prices would suffer a sharp decline and that homeowners would never strategically default on non-recourse mortgages. In fact, many homeowners did walk away when a house's value dropped below the amount owed on the mortgage they could no longer pay. Financial firms holding too little capital in relation to the risk on their balance sheet exacerbated the danger and can be identified as the sixth cause.

The seventh and eighth causes Thomas, Hennessey, and Holtz-Eakin identify are the risk of contagion and common shock. The former, a critical cause of the financial crisis, is when policymakers saved institutions deemed too large to suddenly fail. Common shock occurs across unrelated institutions due to the fact that many of them made similarly poor bets, in this case, on the housing market. Ninthly, the dissent identifies the financial shock and panic, as well as the resultant loss of confidence in the financial system and the failures, almost failures and restructuring of ten firms such as Lehman, AIG, and Wachovia. Lastly, the financial crisis led to economic crisis in the form of an extreme contraction of real economy.

2.3. The Economic Report of the United States President 2010

The 2010 Economic Report of the President postulates that the United States is required to advance in three key areas: innovation, education, and infrastructure. The Report links job creation to innovation and forwards that “the first step to winning the future is encouraging American innovation” underpinned by free enterprise. To meet that first goal, the President’s proposed budget invests heavily in biomedical research as well as information and clean energy technologies. In order to create additional clean energy jobs, the returns for investment in these industries had to increase. Moreover, the education system needs to improve in such a way that it will be better aligned with the demands of these industries. Consequently, the second goal is education overhaul. The Race to the Top (RTT) competition aims to improve public education so that American candidates are qualified for positions in these emerging industries. Thirdly, the President recognizes the need to rebuild not only by attracting new businesses, but also by providing fast and reliable transportation for people, goods, and information. Thus, there is an increased need for public investment in infrastructure. Additionally, pursuit of the third goal may improve the distressed construction industry.

To reduce obstacles to growth, investment, and in order to “win the future,” the President initiates a comprehensive review of government regulations. Soon after the FCIC demand for more regulation, the United States President announces a commitment to revise rules that place an unnecessary burden on businesses. The President reiterates a commitment to protecting the U.S. citizenry through regulation when necessary. To illustrate, the Report notes the support of the Administration for legislation providing consumer protections against hidden fees and penalties by credit

card companies as well as rules to prevent another financial crisis. The Report also commits to debt reduction and budget balancing.

The Report emphasizes that job growth is the backbone of recovery. It highlights that the private sector added one million jobs in 2010 and that the President supported legislation to avoid tax increases for middle-class families, as well as to incentivize businesses to add positions. The Administration supports expansion of infrastructure in order to bolster employment. The central sources of economic growth that will increase employment, create new industries and will result in higher living standards include investment in basic scientific research and effective protection of intellectual property rights. The U.S. Administration will encourage efficient mergers likely to spark innovation and prevent mergers that will hinder innovation by reducing competition. The Report finds that the United States economy presently has excess capacity, enabling additional growth without simultaneously increasing inflation.

2.4. Drivers of financial imbalances 1999–2007

Ouarda Merrouche and Erlend Nier investigate causes of the global financial crisis in a current working paper (Merrouche & Nier 2010). The paper examines the causes of the financial imbalances preceding the global financial crisis. It identifies three factors as particularly relevant: rising global imbalances (capital flows), lax monetary policy, and inadequate supervision/regulation. Capital inflows and related compression of the spread between long and short rates drove the onset of financial imbalances. Capital inflows heightened imbalances in weak supervisory and regulatory environments. Merrouche and Nier also determine, however, that disparities in monetary policy preceding the crisis do not correlate to differences in across nations in the degree of financial imbalances. This research strongly suggests that surplus countries should adopt structural policies to reduce high savings rates in order to better develop domestic and regional financial markets. It further indicates that deficit countries should utilize monetary policies and capital controls in order to regulate capital inflows.

Merrouche and Nier (2010) reach three primary conclusions. First, capital regulation is unable to prevent the build up leverage emerging from wholesale funding markets. That finding indicates the need for greater attention to liquidity regulation. Second, it is necessary for supervisory agencies to adopt more formal intervention and resolution powers. If supervisory agencies are successful in this endeavor, it will increase the effectiveness of supervision and reduce systemic externalities of failure. Third, central banks are the entity most capable of supervising funding liquidity risks. Thus, it is vital to revise policy frameworks so that central banks assume a more formal role in macroeconomic prudential regulation.

3. A European perspective on macroeconomics of the crisis and regulatory policy

Concern over the financial markets begins in August 2007. The precarious situation of the global markets was triggered by the United States' subprime mortgage loan problem (see section III). Britain's Northern Rock Bank was the first British bank to experience a run since 1866. This turmoil spread to other foreign markets.

The Hennessey, Holtz-Eakin, and Thomas dissent correctly identifies the fact that the current economic trends dating to 2007 are both a result and continuation of the globalization process. It is critical to place economic trends in the context of globalization. Adopting that lens reveals that the economic tendencies leading up to, during, and after the crisis were heavily influenced by four factors: accumulation of disequilibria in capital flow, the political climate, the prominent role of emerging market economics in global demand and supply, and the policies of China (Gorynia & Kowalski 2008).

Increased international trade due to both lowering tariffs and transportation costs shaped globalization and economic trends during the global financial crisis. This led to two major outcomes: growing interdependence, in terms of both supply and demand, between countries and regions and shorter life cycles for products and innovations (see Section II).

Globalization produced two important outcomes: a flattened short-term trade-off between inflation and activity (the Phillips curve) and low real interest rates. In regard to the former, globalization lowered the sensitivity of prices to domestic output and made inflation more stable. Similarly, globalization may complicate the identification of underlying trends in the price level because it implies large shifts in relative prices. Large supply of savings lowered real interest rates. Following the tumult of the late 1990s, a number of emerging market economies built up large amounts of foreign reserves as a precaution against future vulnerability. Table 2 demonstrates that, prior to the crisis, China and oil producing countries such as Saudi Arabia exported large quantities of capital while nations such as the United States, Spain, and the United Kingdom were the primary consumers, or importers of capital.

One important factor specific to the United States is the role of business cycle moderation and the fall in precautionary savings. The amplitude of business cycles has decreased in the United States (see Table 1 and Table 3). This decreased amplitude reflects a lower degree of uncertainty for economic agents. An increase in certainty reduces the need to build up precautionary savings because agents who usually save to smooth their consumption in the event of a sharp decline in real output are less inclined to do so. The fall in output volatility is consistent with the reduction in household saving, which was one of the key factors behind the increase in

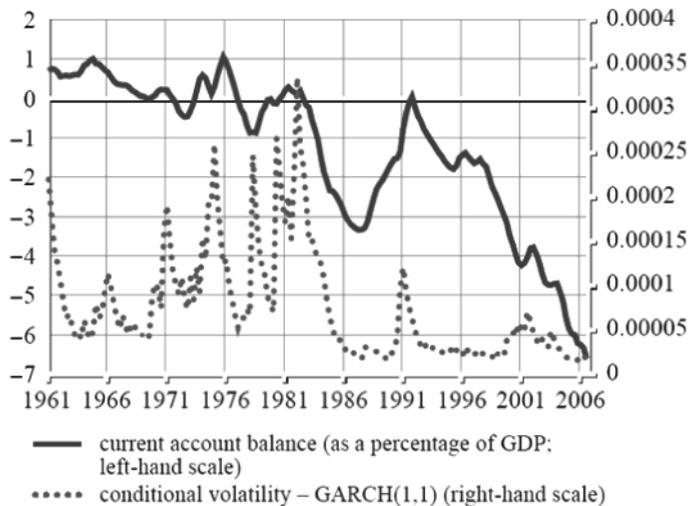
Table 2. The top five exporters of capital and the top five importers of capital as measured by current account surpluses in 2005–2006 (in %)

Top five exporters of capital	Top five importers of capital
1. Japan 14.4	1. United States of America 65.4
2. China 13.9	2. Spain 6.9
3. Germany 10.0	3. United Kingdom 4.5
4. Saudi Arabia 7.9	4. Australia 3.5
5. Russia 7.2	5. France 2.8

Source: International Monetary Fund, September 2006 World Economic Outlook database.

the United States current account deficit (World Economic Outlook 2006, and also *Economic Report of The President* 2011).

These low interest rates led to excess liquidity because banks had invested heavily in the subprime segment of loans and mortgages, accepting higher and higher risk applicants. The subprime mortgage sector became dangerous for the United States and global economy. The turmoil triggered a sizable widening of credit spreads and caused credit markets to freeze. Borrowers and lenders became increasingly uncertain as to how to appraise those compound and risky assets. The problem was exacerbated by the decrease in house prices, which slowed borrowing. Less borrowing



United States business cycle volatility and the current account balance

Source: European Central Bank (ECB) staff calculations based on (Fogli & Perri 2006)

translates to a higher propensity to save, which created a higher savings rate and further fall in residential investment.

The Federal Reserve Bank responded by cutting the interest rate. The cut was expected to trigger adjustments on both the demand and supply sides. Lowering interest rates in 2007, however, did not prove sufficient to resolve the crises. A weaker dollar and improved current account deficit should have accompanied a cut in interest rates.

Conclusions

The recent global financial crisis necessitates a search for a new consensus with regard to economic and financial theory. This paper provides an overview of the evolution of macroeconomic theories and modeling since the publication of Keynes book in 1936 until the year 2010. The paper examines the sources for the extension of boom and bust cycles since the post Second World War period. Subsequently, the paper discusses the fall in the implementation of the Keynesian theory and the return to classical economic principles. Furthermore, the paper outlines the findings of the United States Financial Crisis Inquiry Commission and presents the view of the United States Administration and the European view with regards to economic regulations, fiscal and monetary policies as a consequence of the recent world-wide unparallel crises since the great Depression.

The recent crisis necessitates a shift in the way economists understand, theorize, teach and implement macroeconomic policies. This process is underway. For example, Blinder (2010) posits that the current macroeconomic curriculum is the result of four basic decisions. The first decision is the relative degree of emphasis on growth versus business cycles. Before the 1980s, there was a strong emphasis on business cycles. After the boom of the 1980s and through the 1990s, emphasis shifted to long-run growth. The recent recession requires a return to greater emphasis on business cycles.

The second decision is how “Keynesian” to make a course, i.e., whether to present the Keynesian multiplier model and how much prominence to give the consumption function. Though most texts and courses do not currently provide much Keynesian analysis, it is nearly impossible to explain most governments’ responses to the crisis in 2007–2010; without a more thorough presentation of Keynesian principles.

The third decision is to exclusively present the one-interest-rate model. The recent crisis demonstrated that treasury yields can fall while almost all other interest rates rise. Moving away from building economic and econometric models based on only one-interest-rate is essential in order to provide students and

policy makers with a sense of the events that transpired before, during, and after the recent crisis.

The fourth decision is how complex the model must be, especially in the financial domain, in order to convey an accurate picture. Complexity in the financial sector is absent from many macroeconomic and macro-econometric texts and that omission is an error that the economic profession should respond to and explicitly incorporate into the economic models.

Each country due to its experience, institutional setup and in particular the way it went through the crisis should rethink content and the modes economics, finance and international economics are taught. We believe that despite different perspectives and approaches to the recent crisis there is a prevailing consensus that the issues of institutional framework design and regulatory policies both at the national and supranational levels have to be better reflected in new, redesigned curricula. Furthermore fiscal policy, due to the size of budget deficits and rocketing levels of public debt will also have to be better described and analyzed.

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