Spring 2011
Industry Study

Final Report
Financial Services

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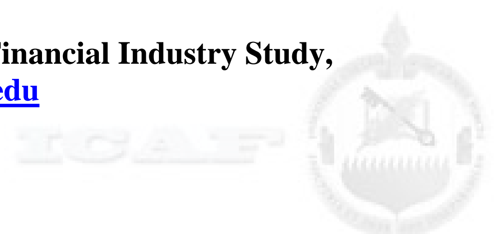

FINANCIAL SERVICES 2011

ABSTRACT: The financial crisis of 2008 proved the criticality of the financial services industry to the U.S. economy and to the effectiveness of her instruments of national power. Although it is one of the most regulated industries in the world, intrinsic systemic risk plunged the U.S. into the greatest crisis since the Great Depression. The financial services sector has risen from the depth of the crisis. Necessary oversight has increased and improved, but its effectiveness remains to be seen. Balancing regulation versus industry competitiveness remains challenging. This study provides insight into the financial services sector; understanding of its strengths and weaknesses; understanding of the regulatory framework; and an overview of selected issues affecting this system. At the conclusion, the reader will understand that without a healthy financial services sector, the U.S. and her instruments of power diminish.

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PLACES VISITED

Domestic:

Washington DC, Area
U.S. Commodity Futures Trading Commission (CFTC)
Pentagon Federal Credit Union
Federal Reserve Board of Governors
Department of Treasury
Lockheed Martin
Morgan Stanley
Carlyle Group
Financial Industry Regulatory Authority (FINRA)
Securities and Exchange Commission
State Department, Economics Division
Freddie Mac
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Executive Summary

The U.S. Financial Services Industry is the cornerstone of the stability and prosperity of the U.S. and global community. This study emphasizes the synergy among major commercial and investment banks, capital markets, and regulatory agencies in contributing to U.S. national power. The three main themes within this study are:

- The industry provides the foundation for U.S. national security.
- The industry has made important progress in recovering from the devastating 2008 financial crisis, but remains fragile.
- The industry and its regulators are struggling to find the proper balance between competitiveness and stability.

Globalization has changed the nature and structure of the financial services industry. There are several major trends affecting the U.S. Financial Services Industry:

- Governments and central banks have intervened to support and sustain their banking institutions.
- Countries have increased financial regulation and international cooperation to reduce the risk of another financial crisis.
- The development of communications technology has accelerated the trend towards mobile and electronic financial transactions.
- Domestically, government deficits and associated debt will have significant impacts on the U.S. Financial Services Industry.
- Financial innovation, the creation of new financial products and instruments, will continue into the future despite the role that it played in the 2008 crisis.

The strength of the U.S. financial system stems from its sheer size, depth, and innovative human capital, as well as its level of interdependence across the global financial system. The interdependence from which the U.S. financial system derives its strength exposes its weakness and is a source of systemic weakness that justifies intensive government regulation.

The failure of regulators has led to a debate about how to reform the regulatory framework, without damaging the competitiveness of the U.S. financial sector. Dodd-Frank represents a significant step toward reducing risk within the system.

The U.S. Financial Services Industry has made significant but uneven progress since the 2008 financial crisis, yet serious challenges remain. The U.S. housing finance system, especially Fannie Mae and Freddie Mac, remains saddled with mortgage defaults and foreclosures. The future of these Government Sponsored Entities (GSEs) remains uncertain, as does the future of the U.S. mortgage market. Recommendations:

- Regulators should balance the need for stability and global industry competitiveness when implementing financial regulatory reforms.
- Continued international cooperation is necessary to create an equitable regulatory environment across major financial markets.
- The Fed should limit further long-term accommodative monetary policy that may induce new global asset bubbles.
- The U.S. must engage strategic partners to develop and implement policies that correct global imbalances while promoting free trade.

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INTRODUCTION

This study emphasizes the synergy among the major commercial and investment banks, capital markets and regulatory agencies and the way it contributes to U.S. national power. It looks deeply at the financial sector's role in the recent financial crisis and the impending regulatory framework designed to prevent or limit future crises.

The financial services industry is a vast and complex system comprised of a wide range of private and public institutions. It is the cornerstone of the stability, economic security, and prosperity of the U.S. and global community. The industry weighs heavily upon the nation's economic growth and wealth. Furthermore, the perceived (pre-crisis) strength of the U.S. financial system was an important factor that increased U.S. influence worldwide. Therefore, the U.S. financial services industry has a direct and significant impact on the resources available to support U.S. national security, because it enables all elements of national power – Diplomatic, Informational, Military, and Economic. The recent economic downturn, sparked partly by an unchecked U.S. financial sector, challenged U.S. national power and shows the financial sector's potential to cripple the economy.

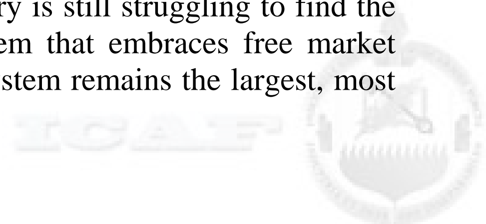
Disruptions of 2008 mirror episodes of the bank-centric financial system of the 19th and early 20th centuries, including the Great Depression of the 30s. The industry has made significant but uneven progress in recovering from the 2008 crisis, but remains fragile. Lingering weakness in the national economy, particularly the housing sector, could yet derail the recovery in the financial services industry and the broader economy.

Regulatory reform thus far has contributed to the industry's recovery. Initially, Dodd-Frank regulatory reform threatened to stifle the financial services industry. However, the current implementation process balances oversight with innovation and profitability. While the reforms narrow moral hazards and reduce key risks, their effectiveness in preventing systemic risk is undetermined. The industry remains vulnerable to excessive risk-taking by individuals or firms thus endangering the broader system.

Continued international cooperation is necessary to create an equitable regulatory environment across major financial markets. This is key to successfully managing global systemic risk and maintaining the competitiveness of the U.S. financial system. If there are significant differences in regulation between jurisdictions, financial activities will migrate to the jurisdiction with the lightest regulation, perpetuating risks to the global system.

The sovereign debt position of the U.S. is unsustainable and overwhelming. Continued deficit spending will threaten the ability of the U.S. to fund initiatives crucial to national security, dilute diplomatic leverage, and limit national policy options. Absent a viable strategy, the current path could lead to diminished domestic production, reduced consumer spending, crowding-out of private investment, and--potentially--another global financial market crisis. The Fed should limit further long-term accommodative monetary policy that may induce new global asset bubbles. Further, the U.S. must engage strategic partners to develop and implement policies that correct global imbalances while promoting free trade.

The U.S. financial services industry has made important progress in recovering from the devastating 2008 financial crisis, but remains fragile. The industry is still struggling to find the proper balance between competitiveness and stability in a system that embraces free market principles while ensuring proper oversight. The U.S. financial system remains the largest, most



developed and innovative financial system in the world, but excessive risks could cripple the nation's economy and threaten U.S. national security.

NATIONAL SECURITY IMPLICATIONS

The financial industry plays a critical role in the economic and national security of the U.S. and the global community. Today, the U.S., along with much of the developed world, is dependent on an international financial network that is vulnerable to disruption. Economic interdependency between nations means the actions of a single actor can have a significant and abrupt global impact. The recent global financial crisis and subsequent economic downturn served as a harsh reminder of this reality. It also demonstrates that the banking sector is central to the broader economic security of the U.S. A growing deficit, increasing demands on a shrinking budget and a political system struggling with fiscal responsibility have reinforced the fact that economic security is, in turn, central to national security.

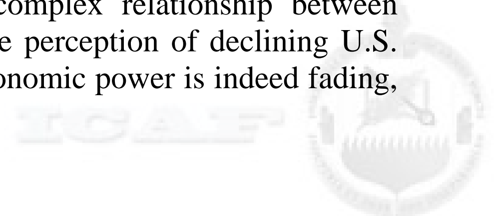
The health and stability of the U.S. financial system weigh heavily upon the economic security and prosperity of the U.S. and the global community. An unstable financial system can destroy the prosperity of the nation and have worldwide impacts. Financial institutions facilitate lending and investing. In a market economy, banks serve as financial intermediaries; ideally they make capital available to businesses so they can grow. However, they risk lending to unproductive endeavors.

According to the U.S. Treasury Department, U.S. debt exceeded 14 trillion dollars in 2011.[1] Many consider the growing debt to be of grave importance to national security. In June 2010, Admiral Michael Mullen, Chairman of the Joint Chiefs of Staff, asserted that the national debt was the single biggest threat to U.S. national security.[2] In May 2010, Secretary of State Hillary Clinton argued that the U.S. "cannot sustain this level of deficit financing and debt without losing [its] influence" and that it was time to "make the national security case about reducing the deficit and getting the debt under control."[3]

Large debt and increasing interest payments decrease funds available for national security activities and investment. As debt payments increase, so will political pressures to decrease spending, including the defense budget. The budget deficit requires the U.S. to import savings to finance domestic investment. This increases the trade deficit and the financial power of other nations, such as China, over U.S. affairs. Economic competition is an increasingly important facet of today's security environment. Moreover, maintaining the high quality of life associated with a consumer-driven society is a high national priority in the U.S. With the unemployment rate hovering at nine percent, this standard seems out of reach for many Americans.

The financial crisis, economic stagnation, and growing debt threaten to stifle innovation. President Obama stressed this theme in his 2011 State of the Union Address mentioning some form of the word over ten times in the speech[4]. The president also addressed the need to invest in education, science and technology, and research and development in order to encourage further innovation. In order to achieve this goal, public resources must be available for these investments and a strong financial system must enable lending in the private sector.

For the U.S., a notable contemporary aspect of the complex relationship between financial security, economic security, and national security is the perception of declining U.S. leadership in the world. If the American position as dominant economic power is indeed fading,



this would mean less leverage abroad, particularly in weak and failing states where the U.S. prescribes capacity building in its own style. To achieve many of its highest priority national security objectives, such as countering terrorism and violent extremism, building capacity in partner nations is an important task. Particularly in fledgling economies such as in Iraq and Afghanistan, building sound financial systems is vital to long-term economic growth and stability. One author terms this concept "expeditionary economics" and asserts that "encouraging U.S.-style entrepreneurship" is the central task of nation building.5 To fulfill this task, the U.S. will need experts who can work within the historical and cultural context to build local capacity in the financial sector of the affected nation. To be perceived as legitimate, the U.S. will need to prove it is in a position to offer such expertise in the first place, an argument that is more difficult to make in light of the recent economic downturn caused in part by an unchecked U.S. financial sector.

STATE OF THE FINANCIAL SERVICES INDUSTRY

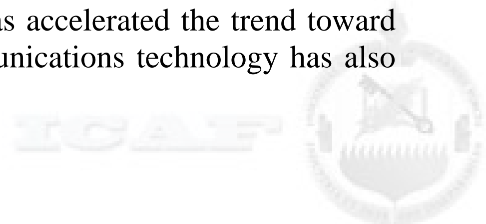
Trends

Globalization has changed the nature and structure of the financial services industry. While globalization provides tremendous opportunities, it contributed to the spread of the 2008 financial crisis around the world. Unlike financial crises of the past where capital flowed from private sector to other private entities globally, the 2008 financial crisis saw unprecedented capital flows from central banks to government borrowers. As a result, two trends have emerged. First, governments and central banks have intervened to support and bail out their banking institutions. Second, countries have increased financial regulation and international cooperation to increase the stability of their banking systems and reduce the risk of another financial crisis.

First, the scale and interdependence of the global financial markets permits a country-specific failure to quickly affect the global financial market. Therefore, government and central bank intervention remains critical to limiting the spread of the financial crisis and is integral to the continued recovery of the financial services sectors worldwide. The debt problems in Greece and Ireland have affected the entire Euro-zone. The European Central Bank and the International Monetary Fund have been forced intervene in these countries' finances to protect the global financial markets.

The second trend emerging from the 2008 financial crisis is increased regulatory oversight and the recognition of the need for coordinated international standards and regulations. Domestically, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) provides for more oversight and safeguards in the U.S. financial sector. The Basel accords recognize the need for international cooperation to safeguard the global financial markets from future crises. Increasing financial regulatory requirements will continue to reshape the global financial system. U.S. financial services industry now provides services domestically and internationally to its customers, both commercial and retail. From investment banking to payment services to foreign currency exchange, U.S. firms have expanded will continue to expand their product offerings to remain competitive in a globalized environment.

Third, the development of communications technology has accelerated the trend toward mobile and electronic financial transactions. In addition, communications technology has also



reduced the transaction costs of conducting business across the globe. As in many other industries, a greater percentage of financial transactions are occurring over the internet and mobile phones versus traditional branch banking. The increasing use of electronic means to conduct transactions has also increased security and fraud concerns for financial institutions.

Fourth, U.S. government deficits and associated debt will have significant impacts on the U.S. financial services industry. Fiscal challenges at all levels of government threaten to reduce the relative importance of the U.S. financial services industry in the global environment.

Fifth, financial innovation (creation of new financial products and instruments) is a trend that will continue into the future. Critics argue financial products such as Mortgaged Backed Securities (MBS) and Collateralized Debt Obligations (CDOs) significantly contributed to the recent financial crisis. Others argue these products improved financial intermediation, reduced individual risk, and helped allocate capital more efficiently around the globe. Financial regulators will continually face the challenge of keeping pace with financial innovation and reducing the risk of another financial crisis. The lack of regulatory oversight and understanding of MBSs and CDOs contributed to the 2008 financial crisis. These lacunae allowed financial institutions to introduce and transfer excessive risk to the system, while retaining little themselves. Currently, regulators need to coordinate efforts to provide proper oversight of innovative financial products such as commodity Exchange Traded Funds. While these are technically financial equity products, these products directly impact commodity products and prices. While financial innovation will continue naturally and will be a strength of the US financial services industry, regulators must continue to be vigilant in understanding and managing the impact of these innovations in the financial markets.

Current Conditions

SWOT Analysis of the U.S. Financial Services Industry

Strengths	**Weaknesses**

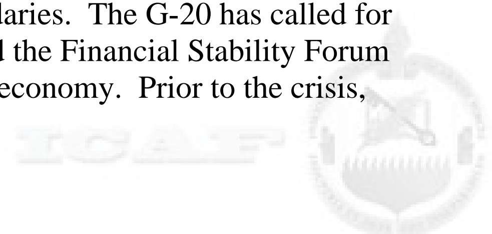
• The political and social stability of the U.S.; rule of law, property rights and relative transparency; the market structure and exchanges; and the U.S. dollar as world's reserve currency, place the U.S. Financial Services Industry as the world's leading trusted and stable financial system
• Low capital allocation transaction costs for individuals and businesses
  o Innovation/Securitization; risk hedging
  o Globally competitive
• Independent, well-established Central Bank and regulatory system
	• Systemic risk associated with speculation, derivatives, innovation, complexity, and securitization.
	• Moral hazard – e.g., "too big to fail"; excessive risk taking
	• Financial innovation can outpace regulation and risk assessment; potential gaps in regulatory framework
	• Significant amount of bad loans remain on bank balance sheets

Opportunities	**Threats**
• Regulatory reform (e.g. Dodd-Frank) can increase transparency and stability and close gaps within regulation and between agencies • Financial services opportunities overseas, especially emerging markets • Shifting trend from capital growth to capital preservation	• National Debt Implications • Unforeseen / ignored systemic risk • Unintended consequences of regulations (Dodd-Frank) that are too restrictive could jeopardize global competitiveness of U.S. Financial Services • Vulnerable to electronic attack • Downturn in general economy – "double dip recession"

The strength of the U.S. financial system stems from its sheer size, depth, and innovative human capital, as well as its level of interdependence across the global financial system. These factors contribute to the resiliency of the industry. However, the interdependence from which the U.S. financial system derives much of its strength also exposes its weakness. The financial sector is rife with opportunities for key actors to engage in activities that inflict costs on third parties. Problems such as moral hazard, risky financial innovation, speculation, and inadequate regulatory oversight expose the systemic risk of the financial system. Critical gaps in regulation and a problematic incentive structure, such as those associated with mortgage brokers and credit rating agencies, have proven to be significant weaknesses in the current system. In the aftermath of the 2008 crisis, the high costs of financial system failure inflicted on broader society bring calls for government action to mitigate the effects of crises through "bail outs" and more intensive regulation.

International Dimension

The 2008 crisis reinforced the global interdependence of the financial system and the pre-existing trend toward increased international cooperation with regard to financial sector regulation. This led to an important enhancement of the role of the G-20 in tackling macroeconomic and financial issues that cut across national boundaries. The G-20 has called for enhanced supervision of credit rating agencies and has empowered the Financial Stability Forum to look into linkages between financial institutions and the macro-economy. Prior to the crisis,



the principal regulatory bodies were increasing their cooperation with foreign counterparts and with international organizations such as the International Monetary Fund, the Bank for International Settlements, and the International Organization of Securities Commissions.

Recognizing that banks compete internationally, bank regulators in major countries attempted to standardize capital requirements in a series of international agreements known as "Basel I," "Basel II," and "Basel III," the last of which is being implemented. These agreements strive to create a level playing field, bank capital reserve requirements for different risks. However, these agreements are fraught with difficulty. Basel II relied heavily on ratings by Credit Rating Agencies to determine capital requirements. Moreover, by specifying capital requirements for each type of instrument, Basel II created powerful incentives for regulatory arbitrage. Basel III attempts to address some of these weaknesses by requiring more capital – with regard to specific risks and as a general proposition. However, the risk remains that financial firms will work to circumvent the intent of Basel III.

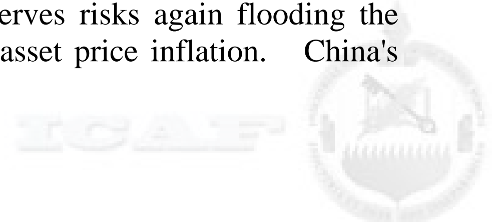
While international cooperation and agreements can mitigate the natural tendency of banks to move operations to the most lightly regulated jurisdiction, they cannot eliminate it. Many countries decline to participate in some of these agreements creating jurisdictions in which risks to the international system can build. Moreover, efforts at international cooperation have failed to create broadly similar responses to the recent crisis. The EU and the U.S. seem to be diverging substantially in their post-crisis reforms. For example, as compared to the U.S., the EU is moving toward stricter regulation of both hedge funds and credit rating agencies.

The People's Republic of China

China is currently the world's second largest economy and is working to develop a modern infrastructure capable of supporting its 1.3 billion citizens. The cornerstone of any country is the financial sector, so China's Communist Party maintains tight control of the financial services industry. This influence in the financial sector allows control of the country's development and helps provide the stability that will ensure the communist party remains in power.

China is progressing from a centrally planned economy to a more market driven model, but many challenges remain. China learned many lessons from the poorly executed Russian transition to a market economy and intends to avoid that path by slowly building the foundations of a more market driven economy under a state controlled system. It has mobilized the capital that has enabled rapid and sustained growth and has reduced poverty on an impressive scale. However, a communist government controlling the financial services industry provides the opportunity for corruption that can foster economic and political instability.

Whereas confrontation and isolation defined the U.S.-Soviet relationship, U.S.-China relations are intertwined at two critical points: trade and finance. China depends upon the U.S. as a trade partner and haven for capital while the U.S. depends upon China for debt financing. China's financial system and economy play an increasingly important role in the global economy and are therefore important to the U.S. economy and financial system. In particular, China's massive foreign exchange reserves, created through its exchange rate policy, must flow through the global economy and arguably contributed to the global liquidity bubble that helped cause the 2008 crisis. Post-crisis, China's continued accumulation of reserves risks again flooding the global and U.S. economies with liquidity and could cause new asset price inflation. China's



increasingly important role as a holder of U.S. Treasuries highlights U.S. Government and GSE dependence on Chinese lending. Chinese investments in U.S. companies could also raise delicate questions about U.S. control of key companies, particularly when the acquiring Chinese entity is state-owned. Finally, the rapid growth in Chinese demand is driving the recent run-up in global commodity prices. It affects the ongoing instability in the Middle East and could further affect the world economy, the U.S. economy and U.S. national security.

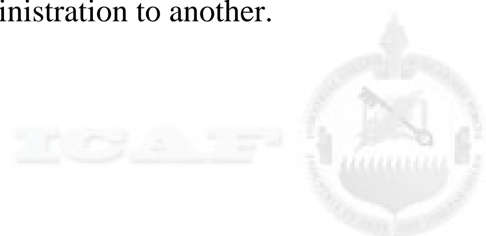
The foundation of China's financial system is its state-run commercial banks. Although the last two decades saw significant reforms and restructuring across the banking sector, loan decisions were, and remain, policy related rather than market driven. The majority of state capital flowed to China's state owned enterprises rather than the private sector. Poor bank governance, particularly in the area of credit risk management has been problematic. Biased lending and poor management resulted in significant numbers of non-performing loans (NPLs). Today it appears that financial reforms in China have yielded significant progress. Specifically, the NPL concerns have been addressed and capital adequacy ratios for China's commercial banks are well within international standards. The Chinese government injected extensive amounts of reserves into the commercial banks to achieve these results and mask the large quantity of non-performing loans. Such actions give the appearance of a stable financial system, but in fact, it lacks the structure and efficiency required to develop a true private sector.

China's government maintains a weak Renminbi (RMB), through a peg to the dollar, to pursue export driven growth. This self-imposed currency weakness increases inflationary pressures within China. While the party controls interest rates, it is hesitant to raise them, or to allow the RMB to appreciate with market conditions because growth remains the priority. In the short run, the government can "sterilize" an adequate amount of excess liquidity to keep inflation within acceptable limits. However, this is unsustainable over the long term and China must shift to a balanced model of domestic consumption.

The U.S. has an interest in supporting China's development in accord with international norms and as a member of international structures. China will develop economically, and most of all politically in its own time and way. It appears that China's leaders see an interest in meeting these obligations while understandably wishing to maximize benefits for China. It is advisable to approach Chinese issues pragmatically and realistically, neither overestimating, nor underestimating Chinese capabilities, reach, or ambition.

The Republic of the Philippines

The Republic of the Philippines is legally and formally structured as a liberal market democracy, modeled on the U.S. However, it functions in a quasi-feudal manner, with economic and political power concentrated in the hands of a few families. They exercise power and influence through conglomerate entities that control banks and other commercial businesses. This is problematic for the economy and specifically for the financial system with a risk of financial institutions pursuing family priorities rather than bank priorities and risk of non-bank activities weakening or destroying the banks. Corruption is endemic, a barrier to growth, and a possible brake on foreign investment. As part of the corrupted informal structure, regulators are woefully underpaid and subject to influence of the conglomerates. Presidential administrations have met with difficulty in sustaining plans/reforms from one administration to another.



Despite this state of affairs, the economy has grown and likely will grow at about 5 percent annually. Several Filipino experts believe it would require sustained growth of 7.5 percent to make a real difference in the lives of the Filipino population.[6] Monetary policy seems well managed. The economy shows limited capital absorptive capacity as it provides limited attractive opportunities for investors. Approximately ten percent of the population is underemployed, and/or working in informal sector showing the challenge of integrating the informal with the formal sector. Rapid population growth, especially among the poor and poorly educated exacerbates these challenges and limits economic growth.

The financial system is reasonably developed for an Emerging Market at the Philippines' level. Banks are profitable and well capitalized, apparently at Basel III reserve requirements. There are shortcomings/areas for improvement. Specifically, bank lending provides too much financing whereas capital markets provide too little. There is a risk of crowding out, although currently the government is the only real activity in the bond market. Capital markets are small compared to other countries in the region (e.g. a $10 million investment would move the market). Providing liquidity to small and medium sized entities (SMEs) is a serious challenge because banks claim SMEs are too risky and provide an insufficient return on investment.

China's exchange rate policy hurts Filipino export competitiveness. The Chinese wage inflation may increase Filipino labor competitiveness. Finally, the Philippines may benefit as an investment destination for Chinese firms seeking to invest China's foreign exchange reserves outside China.

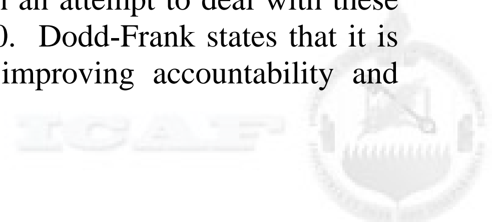
The Philippines still perceive the U.S. as a valuable part of the economic and security equation in Asia. Filipinos are hesitant to directly support U.S. efforts to convince China to make its currency convertible. However, as the RMB strengthens, the Philippines can benefit by assuming some of China's export market. The Philippines will need continued international assistance to improve governance and continue to realize its economic potential.

The Philippines and China (and the Asian tigers) provide an interesting contrast showing the effect that bad policies can have on national power. Fifty years ago, the Philippines was number two in GDP per capita in East Asia after Japan while China was number eight. Manila was a major hub of international business. Currently, China has moved up to number six while the Philippines have dropped to number eight. China's GDP per capita has increased ten-fold during this period while the Philippines has increased less than four-fold.[7],[8] China has become a global economic power while the Philippines has lagged substantially.

ROLE OF GOVERNMENT

Regulatory Framework and Dodd-Frank

In advanced economies, the potential risk to the economy posed by the financial sector requires government regulation and supervision. The U.S. financial sector's regulatory framework is characterized by a patchwork of regulatory bodies developed over time in response to different crises (see description of U.S. regulatory framework in Background Essay Section). The recent financial crisis demonstrated inadequacies in the U.S. framework, as regulators and the industry failed to catch major risks to the overall system. In an attempt to deal with these weaknesses, Congress passed the Dodd-Frank legislation in 2010. Dodd-Frank states that it is intended, "to promote the financial stability of the U.S. by improving accountability and



transparency in the financial system, to end "too big to fail," to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.[9] Regulators have yet to translate the law into specific regulations. Moreover, the dynamic, modern, global financial sector of the twenty-first century may yet outpace this reform, for good or ill.

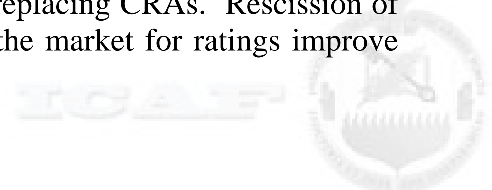
Systemic Risk and Regulators

The 2008 crisis exposed the weaknesses in the regulatory framework in identifying and preventing risks to the overall financial system, i.e. systemic risk. To sharpen regulatory focus on systemic risk, Dodd-Frank established the Financial Stability Oversight Council (FSOC), to strengthen coordination between agencies and close gaps in regulation. While the public has an interest in maintaining financial stability, an implicit government guarantee for firms considered "too big to fail" could lead large firms to take on excessive risks. Dodd-Frank attempts to mitigate this problem. The FSOC is empowered to decide whether a firm, regardless of its form, poses a risk to the system and is therefore subject to enhanced regulatory scrutiny and additional capital requirements. The FSOC can also authorize the FDIC to take over a systemically significant firm. When this happens, Dodd-Frank provides new, enhanced resolution authorities to restructure the institution in such a way as to limit the contagion to the broader financial system even while obviating the need for a taxpayer-funded rescue. Although previously the Fed provided liquidity and actively intervened to limit the damage from financial crises, only with the passage of Dodd-Frank did Congress explicitly give the Fed responsibility for the stability of the financial system.

The Securities and Exchange Commission (SEC) was ineffective in dealing with the risks of the firms it regulated in the run-up to the crisis. The SEC probably contributed to the crisis by lightening regulatory requirements on investment banks in the pre-crisis years. The most vulnerable firms were the large investment banks which were jointly regulated by the OTS and the SEC. All of these investment banks failed, merged into other banks, or converted to bank-holding companies so that they could access the Federal Reserve's discount window. Dodd-Frank strengthens the SEC's power to regulate hedge funds, credit rating agencies and derivatives. Dodd-Frank abolished the Office of Thrift Supervision (OTS), which had failed to monitor risks at institutions such as AIG, Lehman, Countrywide and WAMU in the run-up to the crisis.

The credit rating agencies (CRAs) were key enablers of the asset-backed securities bubble. The CRAs assigned the highest credit ratings to structured securities that subsequently became illiquid and dropped precipitously in value. The CRAs' risk models failed to give enough weight to a scenario in which there would be a precipitous collapse in housing values. Nor did the CRAs fully understand all the ramifications of complex credit derivatives. Moreover, the CRAs rating process was rife with conflicts of interest since they had a powerful incentive to give high ratings to structured securities. Regulators had little knowledge of the models or management processes used to rate the securities. These were considered the firms' intellectual property and subject to protection from release, even to regulators.

From 2008 to the present, with more urgency in the aftermath of passage of the Dodd-Frank legislation, the SEC is wrestling with regulations for the financial system and the place CRAs hold within it. It appears that there is no good option for replacing CRAs. Rescission of the oligopoly formerly held by the main three firms could help the market for ratings improve



overall performance. Under Dodd-Frank, a new CRA office at the SEC will require the CRAs to be much more transparent in their methodologies, to have a clear separation between business development and credit analysts, and to strengthen the independence of CRAs' boards. The Dodd-Frank and SEC regulations are also narrowing the use of CRA ratings are in regulating firms' risk profiles.

Under Dodd-Frank, the SEC receives expanded power over hedge funds. In order to ensure that systemic regulators are better informed about hedge funds activities in case they do pose a systemic risk, hedge funds with over $100 million in assets will be required to register with the SEC. If the fund is systemically significant, it will have additional reporting and capital requirements.

Dodd-Frank has expanded the Commodities Futures Trading Commission's (CFTC) and the SEC's powers to regulate derivatives. It mandates that standardized derivatives contracts be traded over regulated exchanges using regulated clearing-houses. Participants in these exchanges would be subject to new capital and margin requirements and there would be greater transparency through reporting requirements. The SEC will have the lead on derivatives linked to securities with the CFTC leading on regulation of all other derivatives. Exceptionally, Treasury Secretary Geithner recently proposed that foreign exchange derivatives be exempted from the new, more restrictive Dodd-Frank requirements.

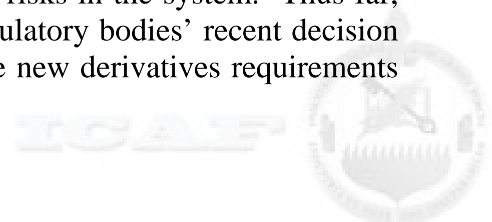
Dodd-Frank retained the role of state insurance regulators in overseeing the insurance industry, relying instead on the expanded role of the Council of Regulators and the Fed to deal with systemic risks. Dodd-Frank did create an office of insurance within Treasury to study insurance issues, coordinate with state insurance regulators, and support the work of FSOC; however, this office does not have regulatory authority.

The Federal Housing Finance Agency (FHFA) regulates the troubled U.S. housing finance sector. FHFA supervises the Federal Home Loan Banks and both regulates and (since the crisis) acts as conservator of the Government-Sponsored Entities (GSEs) Fannie Mae and Freddie Mac. The FHFA was created in 2008 to succeed the Office of Federal Housing Enterprise Oversight (FHEO) and the Federal Housing Finance Board (FHFB). Unlike its predecessors, the FHFA received enhanced safety and soundness powers resembling those of the regulators of depository institutions. Although Dodd-Frank sidestepped housing finance issues, this piece of the broader financial sector is the most fluid with both the Administration and the House Republican caucus proposing substantial reforms. Both would greatly reduce, or eliminate, the GSEs so as to narrow the federal government's role in backstopping risk (see separate paper below on housing finance).

Dodd-Frank consolidated consumer protection functions scattered across numerous regulatory bodies to create a centralized Consumer Financial Protection Board (CFPB). The controversial CFPB derives its funding from the Fed but is otherwise autonomous. The head of the CFPB is a member of FSOC. In the aftermath of the crisis, Congress recognized the need to strengthen regulation of consumer financial products.

Potential Gaps and Weaknesses

Dodd-Frank represents a significant step toward reducing risks in the system. Thus far, regulatory agencies have created balanced regulations. The regulatory bodies' recent decision to exempt commercial end-users of hedging instruments from the new derivatives requirements



as well as Secretary Geithner's recent proposal to exclude foreign exchange derivatives are wise, pragmatic moves. Only when future problems arise will the new framework demonstrate its effectiveness.

A major omission in Dodd-Frank was the failure to address housing finance and the Government-Sponsored Enterprises. This piece of the broader financial sector may be the most fluid with both the Administration and the House Republican caucus proposing substantial reforms. Both would greatly reduce, or eliminate, the GSEs so as to narrow the federal government's role in backstopping risk (see separate section on housing finance below).

In general, Regulators must also be aware of unintended consequences of regulations. Proposed limits to the debit card interchange fees were intended to reduce purchasing transaction fees. According to U.S. bankers, banks have used these fees to provide free checking and other services to individuals.[10] In the end, these limits may actually increase costs to consumers.

Numerous potential gaps and weaknesses remain in the U.S. regulatory framework. Among these are the risk that multiple regulators could lead to a failure to identify and address important risks. While the new FSOC represents an attempt to minimize this risk, its efficacy remains to be seen. In addition, regulation of large banks poses a serious challenge because the FDIC and Office of the Comptroller of the Currency (OCC) have focused on compliance rather than holistic analyses of banks' risk profile soundness.

Dodd-Frank assigned the Fed explicit responsibility for the stability of the system but narrowed the Fed's longstanding powers to quickly provide liquidity to a single firm. It reserved this power to the FSOC. This approval process may impede the Fed's ability to act nimbly in a crisis. The new resolution mechanism in Dodd-Frank requires large institutions to prepare "living wills" designed to allow the unwinding of the firm without requiring an injection of taxpayer funds. While laudable in its intent to allow for rapid removal of a failing institution from the broader system at no cost to the taxpayer, this mechanism is unproven. Finally, the complex task of moving derivatives onto regulated exchanges and clearing-houses, while it is likely to improve transparency, moves a very large market into uncharted regulatory waters. It will be a major challenge to get it right.

The Federal Reserve

We draw the following lessons from the Fed's actions during the 2008 crisis: First, the crisis demonstrated that our ability to preserve financial stability might be enhanced by ensuring the Fed has authority to lend against good collateral to other classes of sound, regulated financial institutions. Such authority should be exceptional e.g. when the absence of such lending would threaten market functioning and economic stability. Second, we recognize this is not without cost. With credit potentially available from the Federal Reserve, institutions would have insufficient incentives to manage their liquidity to protect against unusual market events. Hence, emergency credit should generally be available only to groups of institutions that are tightly regulated and closely supervised to limit the moral hazard of permitting access to the discount window, even when such access is not routinely granted.[11]

THE IMPACT OF THE GROWING AND PERSISTENT DEBT

At the end of 2010, U.S. Government debt totaled $13.5 trillion.[12] By 2020, the Congressional Budget Office estimates this debt will exceed $23 trillion.[13] This figure is more problematic when one considers the future effects of entitlement spending and interest. Today, entitlements (Social Security, Medicaid, and Medicare) represent 75% of all mandatory spending.[14] This equates to 10% of GDP.[15] By 2035, this number is projected to grow to 16% of GDP.[16]

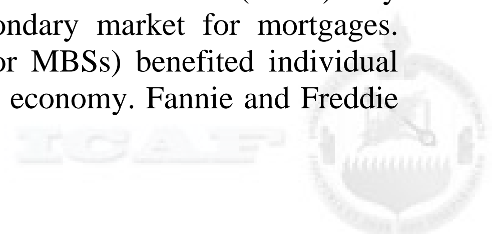
As for interest, in 2010, interest expenses totaled $197B.[17] While significant, this number is somewhat deceiving as current interest rates are at an all-time low. Given a return to historical interest rates, coupled with an expanding debt basis, this figure could rise to as much as $1.1 trillion annually by 2020.[18]

So far, interest expense has been manageable, as global markets have shown healthy demand for U.S. debt. Four key attributes help create this appetite: U.S. control of its own currency, relatively low U.S. tax rates, global volatility, and the Chinese need to buy significant amounts of U.S. securities due to the RMB exchange rate policy. There is no guarantee this will continue indefinitely. Regardless of the relative calm within the market, when a correction is necessary, the adjustment is swift and harsh. A large natural disaster in the U.S. could create conditions that prompt investors to reassess their exposure to American debt at a time when the U.S. would need to raise significant capital. Global investors could drive up yields, which might force the U.S. Government to dramatically reduce all other spending. In this event, consideration of significant second and third order affects is in order.

These affects include increased interest rates, expanding deficits, exponential increases in debt servicing costs, and potential limits to the government's ability to respond to a given crisis. Anecdotally, a 3-5% increase in interest rates could drive interest expenses past $1.5 trillion annually. The cost of capital for private investment would more than double. Coupled with tightened lending and down payment standards the housing market might grind to a halt with concomitant plummeting housing values and associated loss of consumer spending. Government debt would surge due to higher borrowing costs and increased cost of living adjustments to entitlement programs. Commodity pricing would rise with the cost of capital. Finally, banks would find increased exposure to interest rate risk and defaults for which they may be unprepared. It is, therefore, critical that the U.S. Government establish and implement a plan to balance spending and revenue while providing long-term sustainability of U.S. sovereign debt.

THE FINANCIAL CRISIS AND GSE REFORM EFFORTS

The Federal National Mortgage Association (FNMA, also known as Fannie Mae) and the Federal Home Loan Mortgage Corporation (FHLMC, also known as Freddie Mac) each played a major role in the cause of the crisis. These Government-Sponsored Entities (GSEs) buy qualified mortgages, securitize them, and create a liquid secondary market for mortgages. Securitization of these mortgages (mortgage-backed securities or MBSs) benefited individual borrowers and the capital markets, but added risk throughout the economy. Fannie and Freddie



bear the blame due to failures in three primary areas: imprudent lending, excessive risk-taking, and poor corporate governance. They compromised their underwriting standards, purchased too many risky loans, and exhibited little to no oversight or accountability.[19]

Fannie and Freddie used their political power to successfully lobby Congress for weak regulation and oversight, including low capital ratio requirements, to improve their competitive position in the industry. In addition to mortgage securitization, Fannie and Freddie were able to buy mortgages for their own account and thus take advantage of their ability to borrow funds at near Treasury rates because the market perceived (correctly) that they were government guaranteed. During the boom years, this brought vast profits to GSE shareholders and executives. Despite warnings, Congress allowed them to grow and purchase higher risk loans. The Congress shares significant responsibility for creating and supporting a system that increased moral hazard.

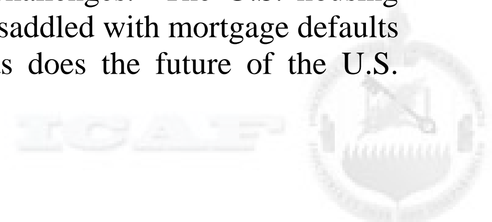
Stalled for years in Congress, GSE reform efforts are now underway, led by those who point out that Dodd-Frank left Fannie Mae and Freddie Mac completely untouched. The future clearly portends a decreased role for Fannie Mae and Freddie Mac and an increased private sector role in mortgage financing. GSE reform proposals are focused on the desire to retain a government guarantee while eliminating the public-private conflict. Maintaining a central role for securitization is vital, but requiring mortgage originators to retain mortgages and related credit risk on their balance sheets is being considered. Other issues need to be addressed: capitalization requirements, reducing leverage, and "ensuring affordable-housing goals do not distort the secondary market."[20] The primary challenges for those adopting new regulations are to ensuring the benefits outweigh the costs and avoiding unintended consequences.

Elimination of Fannie and Freddie, or a much-decreased role, will likely reduce the availability of mortgages, which has major implications for both homebuyers and owners. Buyers can expect increased fees, higher interest rates, and larger down payment requirements, as well as the possible decline of the 30-year fixed rate mortgage. This would further limit demand and cause additional depreciation of housing prices, which could lead to another financial crisis (since many financial institutions still hold substantial mortgage-backed securities on their balance sheets). The unknown that remains is the effect of such developments on the American culture and ideal of home ownership.

OUTLOOK

The U.S. financial services industry has made significant but uneven progress since the 2008 financial crisis, but serious challenges remain. On the positive side, U.S. money center banks are capitalized better than ever and better than most of their foreign competitors. U.S. equity and debt market exchanges are the deepest and most robust exchanges in the world. The U.S. financial service industry is also the most trusted and innovative financial industry in the world. There are many opportunities for U.S. financial firms to export services to the global world economy, especially to emerging markets. The independence of the Federal Reserve has allowed it to deal with the financial crisis in a mostly apolitical manner.

Unfortunately, the financial industry still faces serious challenges. The U.S. housing finance system, especially Fannie Mae and Freddie Mac, remains saddled with mortgage defaults and foreclosures. The future of the GSEs remains uncertain, as does the future of the U.S.



mortgage market. Regulatory changes have not adequately managed financial innovations, like collateralized debt obligations (CDOs). For the longer term, the implications of our government's inability to adequately address the current budget deficit and mounting U.S. sovereign debt not only threatens our nation's ability to exercise power, but also threatens the relative importance and relevancy of the U.S. financial services industry.

The financial services industry faces both an opportunity and a threat from financial regulatory reforms such as Dodd-Frank. These financial reforms are an attempt to prevent future financial crises by reducing systemic risk and increasing the stability and transparency of the financial industry while ensuring the competitiveness of the U.S. financial services industry. Without a doubt, implementation of these financial reforms will reshape the U.S. financial services industry.

The recent financial crisis has also focused attention on preventing the occurrence of another financial crisis. The financial services industry is now much more sensitive and better postured to mitigate the possibility financial crisis. The Chicago Mercantile Exchange recently increased margin requirements for silver and oil contracts when they determined speculative conditions, including the role of Exchange Traded Funds, in these two commodities created an unacceptable level of risk in these markets.

CONCLUSION AND RECOMMENDATIONS

1. The U.S. Financial Services industry is the cornerstone of the stability, economic security, and the prosperity of the U.S. and global community. The industry's health will determine the "power" provided to the Nation's economic engine and its ultimate level of growth and resulting wealth. Therefore, the U.S. Financial Services industry has a direct and significant impact on the resources available to support U.S. National Security, as it enables all elements of national power – Diplomatic, Informational, Military, and Economic. The recent economic downturn, sparked in part by an unchecked U.S. financial sector, challenges U.S. national power and shows the financial sector's potential to cripple the economy.

2. The industry has made significant but uneven progress in recovering from the devastating 2008 crisis, but remains fragile. The continued weakness in the national economy and housing in particular can derail the recovery in the financial services industry.

3. Initially, Dodd-Frank regulatory reform threatened to stifle the financial services industry. However, the current implementation process balances oversight with innovation and profitability. While the reforms narrow moral hazards and reduce key risks in the financial services industry, their effectiveness in preventing systemic risk is undetermined. The industry remains vulnerable to excessive risk-taking by individuals or firms that endangers the broader financial system.

4. Continued international cooperation is necessary to create an equitable regulatory environment across major financial markets. This is key to successfully managing global systemic risk and maintaining the competitiveness of the U.S. financial system. If there are significant differences in regulation between jurisdictions, financial activities will migrate to the jurisdiction with the lightest regulation, perpetuating risks to the global system.

5. The sovereign debt position of the U.S. is unsustainable and overwhelming. Continued deficit spending will threaten the ability of the U.S. to fund initiatives crucial to national security, dilute diplomatic leverage, and limit national policy options. Absent a viable strategy, the current path could lead to diminished domestic production, reduced consumer spending, crowding-out of private investment, and--potentially--another global financial market crisis. The Fed should limit further long-term accommodative monetary policy that may induce new global asset bubbles. Further, the U.S. must engage strategic partners to develop and implement policies that correct global imbalances while promoting free trade.

BACKGROUND ESSAYS

The following essays are short summaries of select individual research projects completed during the study of the financial services industries.

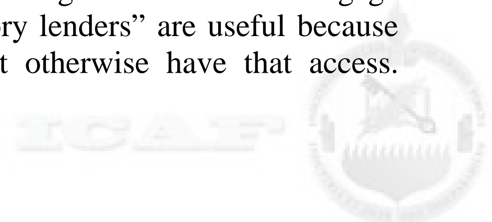
Collapse of the Investment Banks

The collapse of the investment banks, Bear Stearns and Lehman Brothers, and the purchase of Merrill Lynch by Bank of America as it faced potential bankruptcy, is commonly accepted as a catalyst for the financial crisis of 2007-2009. A key driver was the purchase of collateralized debt obligations (CDOs) and mortgage backed securities (MBS) by the investment banks utilizing short-term (overnight) loans to finance the long-term debt. Investment banks would sell these instruments under re-purchase agreements, generating huge profits from fees and, more significantly, earnings from the interest rate spread.

As home prices began to decline, and owners became overleveraged either by purchasing homes that were too expensive or through the use of a second mortgage to access their equity, they started to default. This was driven by decreasing home prices, coupled with impacts from other economic strains, such as increasing unemployment and other events affecting homeowners. The result was a significant increase in mortgage defaults, which forced a decline in the value and revenue from the MBSs and other instruments, such as the CDOs. The devaluation of these assets prevented the investments banks from selling them forcing them to lose their access to capital. Without access to capital, they defaulted on their debt and collapsed.

Predatory Lending

The financial crisis of the first decade in the 21st century involved many layers. One factor that contributed to both the housing market collapse and weak overall consumer confidence was the actions of predatory firms. Predatory lending refers to the practice of unscrupulous lenders to enter into unsafe or unsound secured loans for inappropriate purposes. While the term "predatory" has negative connotations, the reality is that these lenders can sometimes be the "lender of last resort". Without their services, many Americans would not have access to capital in order to pay bills and attempt to obtain the American dream of home ownership. Instances of predatory lending are most prevalent in sub-prime mortgage lending, issuance of credit cards, and payday lenders. If an individual does not have a savings account or a relationship with a financial institution, they must find alternate means for obtaining capital to pay their expenses. This is when the predatory firms are able to exploit consumers. The rules governing predatory lending vary greatly from state to state. Most states set a limit for the level of finance charges a payday lender a lender can charge, typically 12-18%. Other states do not have a strict ceiling on the finance charge rate, but they do limit the amount of funding that any one individual can borrow at a time. State anti-predatory laws (APLs) must be enacted by all states and must be enforced. By the end of 2007, thirty states and the District of Columbia had passed some sort of mortgage regulation statute, while the remaining states left the mortgage market unregulated. The services provided by so-called "predatory lenders" are useful because they provide capital to individuals and families who may not otherwise have that access.



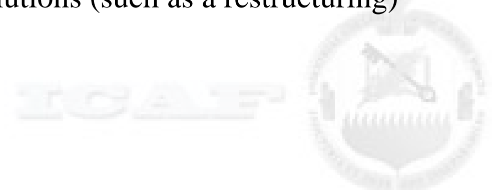
However, more robust and prevalent APLs would have contributed to smaller incidence of risky mortgage practices.

Home Mortgage Industry

The recent innovation of Credit Default Obligations (CDO) allowed the risk of lower quality mortgages to be packaged into variable-risk investment tranches and sold to investors. This "innovation" allowed mortgage originators to quickly sell lower quality mortgages (e.g. subprime, no-documentation, zero down…) to investment markets and pass the risk of potential defaults to investors worldwide, creating a moral hazard since the rewards of mortgage origination/servicing are de-linked from the risks associated with mortgage defaults. Irresponsible loan originations combined with the "irrational exuberance" for housing caused the unprecedented defaults that ultimately resulted in the Financial Crisis of 2007-2009. While the housing bubble was also fueled by low interest rates, creative ARM loans, predatory lending, reduced regulation, enthusiastic real estate agents, compliant appraisers, and irrational homebuyers; the moral hazard created by CDOs was an underlying cause of the housing crisis and subsequent financial crisis. The financial industry is still recovering from record mortgage default rates and subsequent financial crisis, but is still attempting to address the risks associated with the current system. The U.S. government is currently purchasing 95% of all new mortgages to ensure capital is available to support the housing market. A proper balance of risk and reward is essential for a strong and stable housing market in the future. Reform will most likely strengthen underwriting standards and ensure both mortgage originators and buyers have "skin in the game" to eliminate the moral hazard of the current system. These changes will likely result in increased borrowing costs for future home buyers and reduce the number of individuals qualified for home ownership.

The Euro-zone Sovereign Debt Crisis

The Euro-zone sovereign debt crisis has multiple causes. The monetary union allowed weaker economies of Greece, Ireland and Portugal to borrow at rates that were lower than optimum. Rates were too low because European Central Bank (ECB) monetary policy was weighted towards conditions in the larger economies and because markets doubted the core countries would ever let the peripheral countries default. Low rates allowed the peripheral countries to run up what may be unsustainable ratios of debt/GDP and fiscal deficit/GDP once the recession of 2008-9 arrived. Keynesian stimulus in response to the recession increased deficits across the Euro-zone, weakening the ability of all countries to respond to subsequent sovereign debt problems. Significant exposure to peripheral country sovereign debt by banks across the Euro-zone has led core country leaders to prefer bailouts with economic reform programs to sovereign debt restructurings that might damage fragile bank balance sheets. The core country and European institution leaders have opted for ever-expanding support mechanisms coupled with International Monetary Fund programs. Sovereign bond yields suggest that markets believe that Spain may be able to avoid a debt restructuring, but that such a restructuring for the other three countries may be unavoidable. Europe may succeed in muddling through with the current approach, but more credible solutions (such as a restructuring)



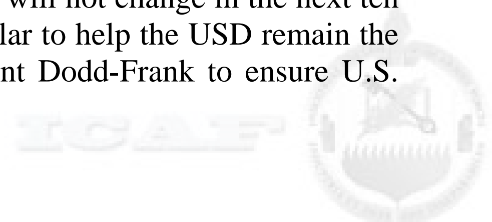
may be needed to avoid either a larger crisis or condemning the peripheral countries to years of economic decline or stagnation.

Financial Innovation

In order for a business to survive, thrive, and stay competitive in the industry, they must constantly think of ways to improve the product-line, introduce new ideas, method and technology into the market place. Financial innovation has been with the financial industry since its inception. It is the creation and introduction of new types of instruments, products or services the financial industry can use to spur growth within the market. This is done to spur economic growth and improve the industry with the intent of enticing both the investor and seller. The introduction of the Technological Revolution of the late 20th century delivered great new capacities to the financial industry, rising electronic trading to a new level, introducing new technology and software to every aspect of the industry, and spreading the popularity of new financial products like adjustable rate mortgage (ARM), credit default swaps, mortgage-backed securities (MBSs), sub-prime loans MBSs, and collateralized debt obligations (CDOs). The financial crisis saw the failure of these new financial instruments, like CDOs and MBSs. These products were neither tried nor tested before launching and were not subject to regulatory restrictions. The introduction of these products immediately began making money for Wall Street, banks, and consumers. With everything moving smoothly, the economy and housing market growing, U.S. housing policy was allowing first time homebuyers to purchase homes with little to no money down. Securitization, ease of obtaining credit, and a low jobless rate all contributed to the housing and financial bubble. Americans prize out-of-the-box thinking in technology and culture, but they fear it in finance--understandably, thanks to innovative disasters like credit default swaps, derivatives, collateralized debt obligations, and "negatively amortizing" mortgages whose principal grows instead of shrinking. Financial innovation will be criticized when new instruments are not back tested and fail to be capital deepening.

Strategic Implications of the U.S. Dollar's Status as the World's Reserve Currency

Since the 1960s, the U.S. has benefited from an "exorbitant privilege" with the U.S. dollar's status as the world's reserve currency. The recent global financial crisis has sparked more debate on using another international reserve currency to replace the U.S. dollar (USD) as the reserve currency. This paper examines this issue by first discussing how the U.S. has benefited from the USD's status as the world's reserve currency, look at the conditions needed to be a reserve currency, and addresses the strategic implications of the dollar's status as the world's reserve currency to execute the U.S. National Security Strategy. Domestically, the loss of the U.S. dollar as the sole world reserve currency would result in the loss of seigniorage and mostly like result in an immediate devaluation of the dollar. The loss of purchasing power for consumers and the government could result in a lower standard of living and hinder the ability of the U.S. to utilize its national instruments of power to execute its National Security Strategy. While it appears the USD's status as the world's reserve currency will not change in the next ten years, it must enact fiscal policies to stabilize the value of the dollar to help the USD remain the reserve currency. In addition, the U.S. must carefully implement Dodd-Frank to ensure U.S.



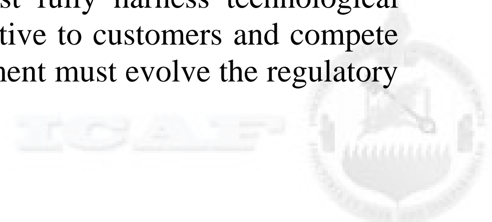
financial markets remain strong and robust without imposing onerous, no-value added regulations.

How the National Debt Could Jeopardize the Future of Public Private Partnerships

America's insatiable appetite to spend and a political system that supports this craving without constraints has brought the U.S. face to face with an economic crisis that not only threatens our national security, but has the potential to infect American's top defense firms. Statements by Moody's Investors Service and Standard & Poor's warning of the possibility of downgrading U.S. credit ratings signal not only that tax payers could be paying higher interest on the national debt, but warn corporate America of the perils ahead. Creative efforts such as public private partnerships, where the government attempts to find long term value by sharing costs and risks with private industry, would likely become irrelevant as access to capital would quickly dry up. When introduced, public private partnerships were an attempt to provide a cost effective method for the military to meet its housing needs in a time of severe budget constraints. Public private partnerships allowed the government to divest itself of those non-core activities, capitalizing on the expertise and value industry brings to the table. Public private partnerships offer the Executive Branch a viable option to fund long-term projects. Should the Nation's credit rating be downgraded, the private sector's ability to gain access to capital will be in jeopardy. If this occurs, fewer companies will be capable of supporting these partnerships, resulting in significant cost increases for military housing as the burden of risk is pushed to the contractor to independently finance long-term government projects. The significant increase in cost and risk will likely make future partnerships for the privatization of military housing unaffordable, compounded with the potential that Congress has not had an ongoing requirement to budget these projects in the past. In the end, our Nation's Leaders must realize that acting fiscally responsible not only has an impact the interest we pay on long-term debt, but also has the potential to affect the health of our industrial base.

The Impact of the Internet on the Banking Industry

From credit cards to Automated Teller Machines (ATMs) to virtual and mobile banking, information technology has played a central role in the evolution of the financial sector. In particular, the emergence of the internet has fundamentally affected the structure of the banking industry, creating strengths, weaknesses, threats, and opportunities. Regarding strengths, improvements in computer and telecommunications technology lowered the cost of financial transactions and empowered investors by equipping them with more knowledge and information. Improved technology, coupled with a trend of global deregulation, changed the competitive landscape, opening up a range of new businesses to banks. However, one important weakness is that the overall competitive landscape has shifted towards greater consolidation due to significant technological and infrastructure requirements. The internet presents banks with an opportunity to continue to proactively shape the changing environment by constructing and implementing innovative strategies and products. The banking industry must fully harness technological innovations, such as online and mobile banking, to remain attractive to customers and compete effectively in the global marketplace. Likewise, the U.S. government must evolve the regulatory



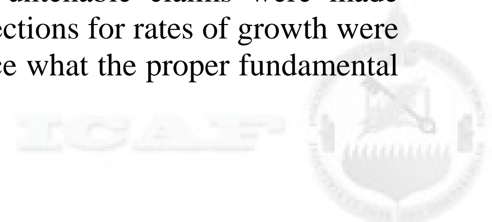
framework in a way that confidently ensures the stability of the financial system and protects investors, but without threatening suppression of financial innovation and creativity. Regulators should avoid over-regulation in emerging areas of financial innovation (e.g., mobile banking) prior to their maturation. Given the interconnectedness of today's financial world, U.S. regulators must also work with partners to promote an international effort towards developing a common regulatory framework or, at a minimum, to ensure compatibility between different national regulatory systems.

What Drives the Business Strategies of the Big Commercial Banks?

In the commercial banking industry, every big commercial bank has its own strategy to improve its performance in the market. Some banks employ traditional banking strategies, others employ nontraditional strategies. Some focus in national market and others in the international market; every bank has determined how to compete in the industry. The size of the bank is not the most important factor in the choice of strategy, because banks of the same size often implement different strategies. There is no strategy that works just for banks of a determined size. Many different strategies exist for banks to earn profits. Every bank may choose a different strategy with the purpose of achieving success. What drives a bank to decide to implement one strategy over another depends primarily in four different points: the perspective they have of the industry structure, government regulations, the perception of their corporative culture and organizational capabilities. Advances in banking technology laid the groundwork for new business strategies at commercial banks. The commercial banking industry is heavily regulated, limiting the options for selecting a business model. Every bank has a different corporate culture that is the main internal factor to drive their business strategy and is considered as a valuable asset. The organization capabilities bring together all activities related to production, marketing and managerial capacity that a company needs to execute their business strategy. The importance of the top managerial capability needs to be emphasized since they possess the corporative knowledge needed for the strategic management and the integration of resources.

The Efficient Market

The efficient market hypothesis holds that when information arises, the news spreads quickly and is instantaneously incorporated into security prices. Because the price incorporates all known information, neither technical analysis nor fundamental analysis will help investors select stocks to achieve returns greater than those that could be obtained by holding a randomly selected portfolio of individual stocks with comparable risk. With this in mind, an uninformed investor buying a diversified portfolio or index fund will obtain a rate of return comparable to the expert investment manager. This hypothesis is frequently questioned by financial economists and investors alike. There seem to be many instances where market prices failed to reflect information, at least ex post. During the internet and housing bubbles, mistakes were certainly made, but little arbitrage opportunities were available to rational investors. It is easy to now look back on both these events and conclude that outlandish and untenable claims were made regarding the growth of the internet and home prices. While projections for rates of growth were not sustainable, it was equally impossible to judge with confidence what the proper fundamental



value was for any security. An investor could disagree with the growth projection, but with use of the internet doubling almost every month, it was difficult not to justify the stock valuations. Recall at the time, every investment professional and respected security analyst recommended internet stocks and mortgage-backed securities. If market prices often fail to reflect rational estimates of company valuations and markets consistently overreact (or under-react), then professional investors should be able to identify these mistakes ex ante with high probability that they make economic profits. However, research over the last 30 years has demonstrated that professional investors do not consistently beat the market, suggesting that markets are generally efficient at adjusting to new information.

U.S. Regulatory Agencies Overview

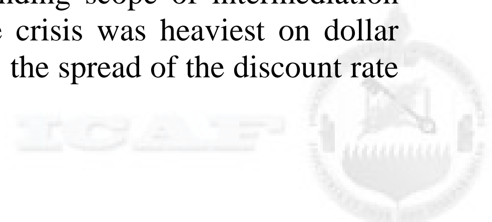
The Federal Reserve Board of Governors

Before the 2008 financial crisis, the Federal Reserve (Fed) implementation of monetary policy followed the classic central bank role with minimum intervention in capital markets or specific institutions. The Fed adjusted the liquidity it provided to the banking system through daily operations with a relatively small set of broker-dealers against a very narrow set of collateral--Treasury and agency securities. These transactions had the effect of changing the aggregate quantity of reserve balances that banks held at the Federal Reserve, and of distributing liquidity by inter-bank funding markets through the banking system in the U.S. and around the world. Additionally, the Fed stood ready to lend directly to commercial banks and other depository institutions at the "discount window," where, at their discretion, banks could borrow overnight at an above-market rate against a broad range of collateral when they had a need for very short-term funding. Ordinarily, however, little credit was extended through the discount window. Banks generally turned to the window only to cover very short-term liquidity shortfalls.

During the financial crisis, however, market participants became highly uncertain about the financial strength of their counterparties, the future value of assets, and how their own needs for capital and liquidity might evolve. They fled to the safest and most liquid assets, and as a result, inter-bank markets stopped functioning as an effective means to distribute liquidity, increasing the importance of direct lending through the discount window. At the same time, however, banks became extremely reluctant to borrow from the Federal Reserve for fear that their borrowing would become known and thus cast doubt on their financial condition. Importantly, the crisis also involved major disruptions of important funding markets for other institutions.

Commercial paper markets no longer channeled funds to lenders or to non-financial businesses, investment banks encountered difficulties borrowing even on a short-term and secured basis as lenders began to have doubts about some of the underlying collateral, banks overseas could not rely on the foreign currency swap market to fund their dollar assets beyond the very shortest terms, investors pulled out from money market mutual funds, and most securitization markets shut down.

The Federal Reserve had to adapt more than most, partly because the scope of activities prior to the crisis was narrow--particularly relative to the expanding scope of intermediation outside the banking sector--and partly because the effect of the crisis was heaviest on dollar funding markets. Initially, to make credit more available to banks, the spread of the discount rate



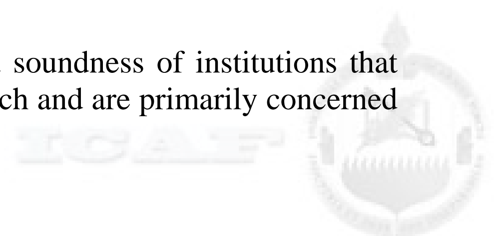
was reduced over the target federal funds rate, lengthened the maximum maturity of loans to banks from overnight to 90 days, and provided discount window credit through regular auctions in an effort to overcome banks' reluctance to borrow at the window due to concerns about the "stigma" of borrowing from the Fed. The Fed lent dollars to other central banks so that they could provide dollar liquidity to banks in their jurisdictions, thus easing pressures on U.S. money markets. Ultimately, the Federal Reserve responded to the crisis by creating a range of emergency liquidity facilities to meet the funding needs of key non-bank market participants, including primary securities dealers, money market mutual funds, and other users of short-term funding markets, including purchasers of securitized loans.

Although the Federal Reserve's lending actions during the crisis were innovative and unprecedented, they were based on sound legal and economic foundations. Our lending to non-bank institutions was grounded in clear authority found in section 13(3) of the Federal Reserve Act permitting a five-member majority of the Federal Reserve Board to authorize a Reserve Bank to lend to individuals, partnerships, or corporations in "unusual and exigent circumstances." These actions also generally adhered to Walter Bagehot's dictum, a time-honored central banking principle for countering a financial panic: Lend early and freely to solvent institutions at a penalty rate and against good collateral. Central banks are uniquely equipped to carry out this mission. They regularly lend to commercial banks against a wide variety of collateral and have the infrastructure to value and perfect their interest in the underlying collateral. During a panic, market functioning is typically severely impaired, with investors fleeing toward the safest and most liquid assets, and the resulting lack of liquidity, even for sound banks with sound assets, can result in funding pressures for financial institutions and others.[21]

An important task before us now is to assess the effectiveness of these actions. Not surprisingly, rigorous studies that evaluate the extent to which the emergency liquidity facilities contributed to improved financial conditions are just beginning to emerge. Nonetheless, market reactions to the announcement of the emergency facilities, anecdotal evidence, and a number of the studies we do have suggest that the facilities forestalled potentially much worse outcomes and encouraged improvements. For example, some asset-backed securities (ABS) spreads, such as those for consumer ABS and commercial mortgage-backed securities, narrowed significantly following the creation of the TALF, and activity in ABS markets has picked up. While the overall improvement in the economic outlook has no doubt contributed to the improvement in ABS markets, it does appear that the TALF helped to buoy the availability of credit to firms and households and thus supported economic activity. Indeed, following the kick-start from the TALF, a number of these markets are now operating without any governmental backing. Another example is the reduction in pressures in U.S. dollar funding markets (as evidenced by the sharp narrowing of spreads between Libor (London interbank offered rates) and OIS (overnight index swap) rates and the decline in premiums paid for U.S. dollars in foreign exchange swap markets). These developments followed the establishment of the Term Auction Facility (which auctioned discount window credit to depository institutions) and of liquidity swaps between the Federal Reserve and foreign central banks, which enabled those banks to lend dollars to commercial banks in their jurisdictions.[22]

Regulators of Depository Institutions

Multiple regulatory bodies are focused on the safety and soundness of institutions that take deposits. These regulators take an institution-specific approach and are primarily concerned



with preventing bank runs and protecting depositors. The principal market failures they strive to address are systemic risk (see above) and the moral hazard arising from government deposit insurance. These bodies impose capital and reserve requirements, and inspect institutions' risk management. The Federal Reserve System is the lead regulator of bank holding companies, state-chartered banks that are participants in the Fed's payment system, foreign banks in the U.S. and foreign branches of U.S. banks.

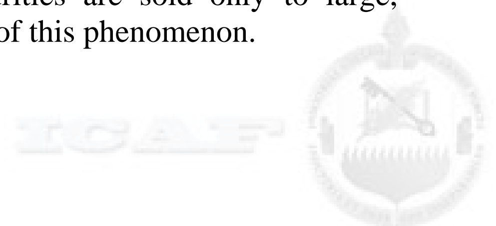
Under the umbrella of the U.S. Treasury Department, the Office of the Comptroller of the Currency (OCC) and Office of Thrift Supervision (OTS) are the lead regulators of nationally chartered banks and savings and loans, respectively. The Federal Deposit Insurance Corporation (FDIC) provides deposit insurance and regulates all federally insured depository institutions. The National Credit Union Administration (NCUA) regulates federally chartered or insured credit unions. At the level of the individual states there are also banking supervisory bodies that regulate state-chartered banks. Clearly, there is considerable overlap with many institutions reporting to multiple regulators.

Market Regulators

Other regulatory bodies have oversight over financial markets. Market regulators tend not to focus on the soundness of individual institutions. Instead, they focus on ensuring transparency and deterring market manipulation, leaving investors to assess the risk of buying credit products, equities or other instruments. The main market failures these bodies try to counter are asymmetric information, fraud and theft, and monopoly market power. The most important market regulators are the Commodities Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC). These agencies oversee most financial markets and exchanges in the U.S. and the SEC has some authority to regulate a multitude of non-bank entities such as investment companies, mutual funds and to some extent, hedge funds, auditors and rating agencies.

The SEC oversees securities markets and exchanges. It does so through extensive disclosure requirements and actively monitoring markets for insider trading, fraud, and other market manipulation. The SEC is assisted in this by the securities industry's self-regulatory organization, the Financial Industry Regulatory Agency (FINRA). The SEC and FINRA monitor broker-dealers. These firms are subject to substantial compliance and reporting requirements. The SEC also oversees the Public Company Accounting Oversight Board (PCAOB) that was established by the Sarbanes-Oxley legislation in reaction to the Enron and WorldCom cases a decade ago. The PCAOB oversees the auditors of companies traded on securities markets to ensure proper standards and guard against conflicts of interests. The PCAOB oversees the work of the accountancy profession's self-regulatory bodies, the Financial Accounting Statements Board (FASB) and the American Institute of Certified Public Accountants (AICPA). These bodies define accounting policies used in companies' financial statements.

The SEC also regulates investment companies, money market funds and mutual funds. Hedge funds are the best-known example of an ever-growing segment of the financial industry in which transactions and firms are exempt from the robust disclosure and other regulatory requirements of publicly traded firms when the relevant securities are sold only to large, sophisticated investors. Private equity firms are another example of this phenomenon.



The CFTC regulates a broad range of derivative products such as futures, options, and forward contracts covering everything from interest rates to foreign exchange, to commodities. These products are traded both over exchanges and between financial institutions.

Insurance and Housing Finance Regulators

Insurance companies are entirely regulated at the state, rather than federal, level. Each state has an insurance regulatory body. FHFA supervises the Federal Home Loan Banks and both regulates and (since the crisis) acts as conservator of the Government-Sponsored Entities (GSEs) Fannie Mae and Freddie Mac.

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