Regulation and Deregulation of the U.S. Financial Sector and the Financial Crises of Recent History

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Figures and Tables

Executive Summary

The purpose of this paper is to examine the U.S. experience with the banking industry's regulation and deregulation. The aim will be to compare both strategies, examine the effects of deregulation on the economy, and determine whether it was deregulation or regulation that led to the crisis of the last two decades.

The essay will be organized as follows. Section 1 will provide a comparison between regulation and deregulation in the broad context. Section 2 will address the brief history of the financial deregulation in the United States along with the major legislative acts that were passed to eliminate banking restrictions. Section 3 will analyze the various effects of financial deregulation on the real U.S. economy supplemented by the findings of previous empirical studies. Section 4 will state the consequences of flawed government regulations – Fannie Mae, Freddie Mac and the Community Reinvestment Act – in relation to the ongoing subprime mortgage crisis. Section 5 will examine the part deregulation played in causing the S&L crisis of the 1980s and 1990s as well as the roles of the Gramm-Leach-Bliley Act and the Commodity Futures Modernization Act in fuelling the crisis in progress. Section 6 will present the differences between the regulatory measures of Canadian and U.S. banks to provide answers to the question of why the Canadian banking industry is performing better than that of the U.S. in face of the current crisis. Finally, conclusions regarding financial regulation and deregulation will be drawn and alternative measures to alleviate the crisis and better shield the economy in the future will be suggested.

Introduction

There is an ongoing debate between proponents of laissez-faire – "leave alone" – and proponents who argue that intense government intervention is necessary in a free enterprise system. Every year we witness an increase in some regulations that spell out in painstaking detail what businesses can and cannot do. Alternatively, we also observe complete phase-out of other regulations. More often than not, conforming to new regulations increases the cost of doing businesses. Nevertheless, these regulations would not be prescribed if it were not for the American corporations' callous disregard for the public's safety.

In the late 19th and early 20th century, many industries in the United States became regulated by the federal government to protect domestic companies and consumer's interests from being exploited by the corporate sector. This created monopolies which necessitated price and economic controls to safeguard the public. However, in the 1920s the U.S. federal government began to pursue laissez-faire economic policies in the belief that in a free market economy, private individuals and corporations would work together for the common welfare of society. Things began to change after the onset of the Great Depression when the excesses of big business were blamed for causing an unstable bubble-like economy. In response, President Franklin Roosevelt implemented many economic regulations including legislative acts which imposed restrictions on the financial sector.

In the 1970s, a new ideological wave swept the world where politicians, analysts, and interest groups attacked government involvement in the economy and pushed to deregulate

companies owned or controlled by the government. This new view had clear prescriptions: it called for stronger measures to beat inflation. Anti-inflationary verve was linked to a belief that economic problems should be dealt with by getting the government out of the economy, rather than by imposing more government macroeconomic management. Deregulation was also the cause and consequence of technical change and global economic integration. The financial sector experienced major technological advances and underwent great evolvements and regulatory changes as well as the creation of new financial products. New legislative acts were passed which repealed old ones and took down barriers to competition between traditional banks, investment banks, and insurance companies, and allowed firms to participate in all three markets.

Deregulation has had beneficial impacts on the U.S. economy. Because deregulation permits competition, it leads to lower prices, greater efficiency and technological advancement. However, there is a continual dispute on whether it was regulation or deregulation of the U.S. financial sector that helped fuel the financial crises of recent history. Some argue that fundamental and pragmatic banking regulations, which arose from the devastating financial collapses of the Great Depression, strengthened U.S. banks and capital markets, making them the twin engines of American growth. Detractors also claim that it was the combination of financial and technological innovation in banking and credit markets – unaccompanied by adequate regulation – that led to today's predicament. Others claim that deregulation was economically beneficial and that it should get the credit for the intervening growth, while the proximate cause of the crises was bad government regulation.

1.0 Regulation vs. Deregulation

"That government is best which governs not at all; and when men are prepared for it, that will be the kind of government" (Henry Davis Thoreau)

1.1 Definitions

- **Regulation** refers to a rule or body of rules that is generally imposed by the government or a regulatory agency and is intended to accomplish provisions of legislation (www.businessdictionary.com).

- **Deregulation** is the removal or simplification of government rules and regulations that constrain the operation of market forces (Sullivan & Sheffrin, 2002). It refers to eliminating or reducing government control of how business is done, and creating a business environment controlled more by market forces rather than by government regulation, thereby moving towards a free market (www.answers.com).

1.2 Regulation: Reasons and Costs

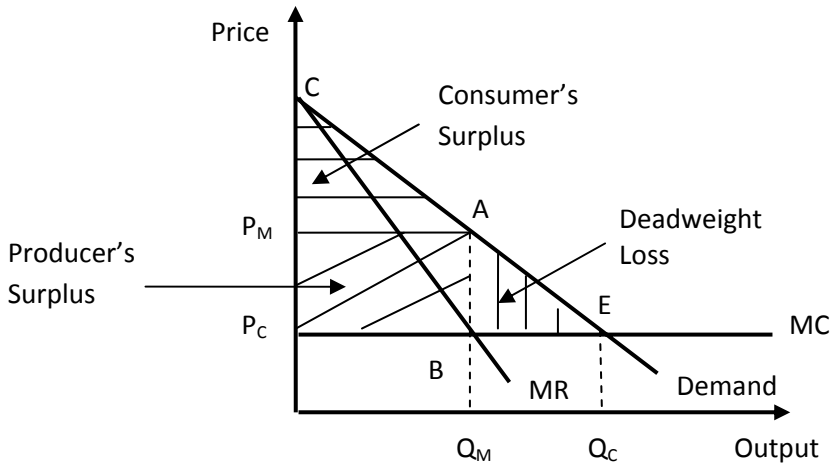
Market failures justify government intervention because they create a wedge between economically and socially efficient outcomes, i.e. they prevent a Pareto Optimal allocation. Sources of market failures are externalities, open-access resources and public goods. In addition, economies of scale is another important reason for government involvement in the economy (Aktan, 1993).

An externality is the impact of a decision or action carried out by one party on another party that was not directly involved in the transaction and whose interests were disregarded or not taken into account. Externalities can be internalized by using property rights which provide a powerful incentive for firms to use resources efficiently. However, property rights can be problematic because they are usually accompanied by high transaction costs and they cannot be defined for open-access resources because the latter are non-exclusionary. Standards and taxes are government policies which are imposed when an industry produces a negative externality, for example pollution, to provide industries with an incentive to reduce emissions to efficient levels in cost-effective way. Standards are direct and simple and they have clear targets, but they are seriously deficient and can take away flexibility to choose lower cost procedures. Taxes meet cost-effectiveness and provide a strong incentive to innovate and invest in lower-cost technologies, but they result in high private costs causing strong political opposition. Open-access resources are open to uncontrolled access by firms who find it profitable or useful to use its resources, thus they promote inefficient allocation resulting in market failures. Public goods are characterized by nonexcludability and non-rivalness. Nonexcludabaility means that once the resource is provided, those not paying cannot be excluded and non-rivalness means that one person's consumption does not diminish consumption of others. Therefore, these features of public goods give rise to market failures.

Strong economies of scale make certain industries more feasible when they are owned by the government. An example is the electric industry where the strong economies of scale in generation and transmission and the abundance of large-scale resources make its financing

difficult for private companies. Therefore, government policy takes the form of large-scale, low cost electricity engine for economic and social development. Such an industry acts as a natural monopoly. A monopoly, whether private or public, creates contrived scarcity because it causes a welfare loss by reducing output and increasing prices (Aktan, 1993). In addition, government backing may allow exploitation of economies of scale because monopolies face no competitive pressure to minimize the costs of production. Figure 1 illustrates the impacts of a monopolistic industry and the social costs it imposes on the economy.

Figure 1: Monopoly vs. Competitive Equilibrium



The objective of a monopolist is to maximize its profits, and this occurs where marginal revenue (MR) is equal to marginal cost (MC). As a result, the monopolist produces Q_M levels of output at price P_M. This means that when an industry operates as a monopoly, the results are lower output and higher prices than a competitive industry which produces where demand is equal to MC, i.e. at output level Q_C and price P_C. In addition, creating a monopolistic situation causes the consumer's surplus to shrink and the producer's surplus to

increase at the expense of consumers, creating a deadweight loss. The deadweight loss is considered a welfare loss because it does not appear as income to anyone; it is neither transferred to the monopolist in the form of profits nor retained by consumers as consumer's surplus (Aktan, 1993). However, the deadweight loss underestimates the social cost of a monopoly as the existence of an opportunity to earn monopoly profit attracts resources to obtain and maintain monopolies, an activity known as rent seeking (Dunne). Rent seeking activities do not create any value and impose large costs on the economy. The incumbents in an industry in which entry is legally restricted will devote considerable resources to maintain their favoured position. If companies compete for the monopoly profits, the expenditure of resources to capture that right is a social cost because the opportunity cost of rent seeking expenditures is equal to the money that could otherwise be spent for productive activities (Aktan, 1993). Lobbying expenses, lawyers' fees, public relations costs can be substantial, and from the viewpoint of the society they represent social waste because they are not true costs of production and they do not lead to more output produced; they simply determine who gets the money associated with the existing output. Therefore, rent seeking results in a sub-optimal allocation of resources — money spent on lobbyists and counter-lobbyists rather than on research and development, improved business practices, employee training, or additional capital goods — which retards economic growth (wikipedia) . "Empirical applications using the augmented social cost framework put the welfare cost of rent seeking somewhere between 7 percent of GNP (Cowling and Mueller, 1978; Posner, 1975; Krueger, 1974) up to as much as 22.6 percent of GNP (Laband and Sophocleus, 1988)" (Lopez & Pagoulatos, 1994). Leibenstein (1966) argues that monopoly management will also prevent the firm from operating in a cost

effective manner causing it to incur higher costs, which he calls x-inefficiencies, than competitive firms (Formby, Keeler, & Thistle, 1988). X-inefficiencies imply that there is a slack[1] in the organization and refer to a situation in which a firm fails to get the maximum possible output from its inputs, or to produce its output with the minimum use of inputs (The Oxford Dictionary of Economics). Liebenstein (1966) attributes x-inefficiencies to deficiencies in the motivation of owners, managers and input suppliers (Formby, Keeler, & Thistle, 1988). This is also the case in a regulated public enterprise whose profitability is not linked to the incomes of its employees; public employees therefore have no incentive to exert more effort because the firm will not be shut down if it fails to achieve productive efficiency (Aktan, 1993).

1.3 Deregulation: Reasons and Potential Benefits

The purpose of deregulation is to allow a particular industry to foster greater competition, create a freer marketplace and spur economic growth (Day, 1999-2009). Both producers and consumers can greatly benefit from deregulation. Deregulated industries are able to seek new opportunities that were restricted by the government and they can incorporate incentives to make changes to enhance the quality of their products. Deregulation ensures cost minimization and thus greater efficiency from competitive processes, and it allows firms to find ways to produce more cheaply through the adoption of different technologies. Deregulation can also support industry consolidation where the stronger firms can acquire the weaker ones; a company that was not performing well or maintained a small share of the market is likely to gain from deregulation (Reeher, 1999-2009). Because deregulation promotes

[1] Unused or underused resources

competition, consumers are benefited by having greater choice and better quality products, thus their lives are enriched. In addition, the lower costs of production are translated into lower prices to consumers. The increase in consumer surplus resulting from competitive processes (area CEP_C in Figure 1) corresponds to greater social welfare which can be used to fund policies that are aimed at improving social well-being thus creating more economic progress. Robert Okun (1986) carried out a study on the consequences of the U.S. deregulation and concluded that deregulation was "a victory of the free market" because it "liberated price controls, permitted competition and allowed entrepreneurs to find the most profitable ways of serving customers" (quoted in Aktan, 1993). Nevertheless, there are also disadvantages associated with deregulation. A company that was successful in the face of government regulations would see deregulation as a downside, as it will make the rules lax for its competitors leading to a breakdown within the entire industry as different players use this flexibility to their advantage--though it can ultimately end up being to their disadvantage (Day, 1999-2009). Deregulation can also create outcomes that are unfair on people, for example if health and safety regulations are removed, then workers are subjected to unsafe environments. Deregulation also encourages deep-pocketed speculators to scoop up all the best seats as an investment, thus making them unreachable to all but the wealthiest fans (Consumer Reports, 2009) . Deregulation can often hit the poorest people worst and could go against the principles of redistributing income.

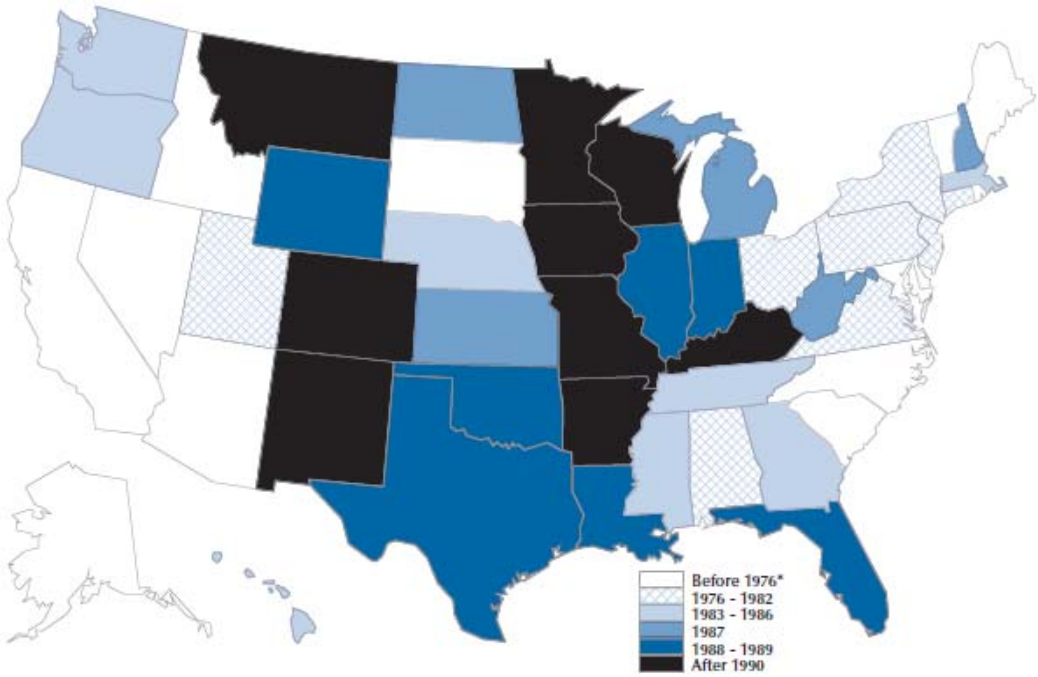
2.0 Financial Deregulation in the United States

2.1 Brief History

For fifty years, beginning in 1933, banking in the United States was heavily regulated. Many Americans who lived through the Great Depression of the 1930s were convinced that economic havoc was caused, at least in large part, by excessive competition among banks that led them to engage in unsafe practices. Since the Great Depression, regulations were imposed on entry into banking so as to keep competitors few and banks were limited as to the interest rate payable on saving accounts. By thus reducing the price banks paid for an "input" which they then used to make loans, one of their "outputs", the industry was thought to be rendered more stable and economic growth more likely (Harrison, Morgan, & Verkuil, 1997). However, the conflict between market forces and regulation became increasingly evident during the 1960s and 1970s as banking and saving institutions were forbidden by regulation to pay high enough interest rates to attract the savings of even ordinary Americans. Moreover, state usury laws prevented the institutions from raising the price of their output – loans – to what would be regarded as competitive levels. This led to disintermediation and a decline in the importance of banks and saving and loans as the go-betweens with respect to lenders and borrowers. Pressure for deregulation grew throughout the 1970s and came in the form of both state and federal action. Ceilings on the rates paid to savers and investors were lifted, state usury laws were pre-empted, and banks and thrifts were permitted to offer a variety of new "products" ranging from credit cards to access to money market funds (Harrison, Morgan, & Verkuil, 1997). Deregulation began in the 1970s because three innovations reduced the value of geographical restrictions: automatic teller machines (ATM), checkable money market mutual

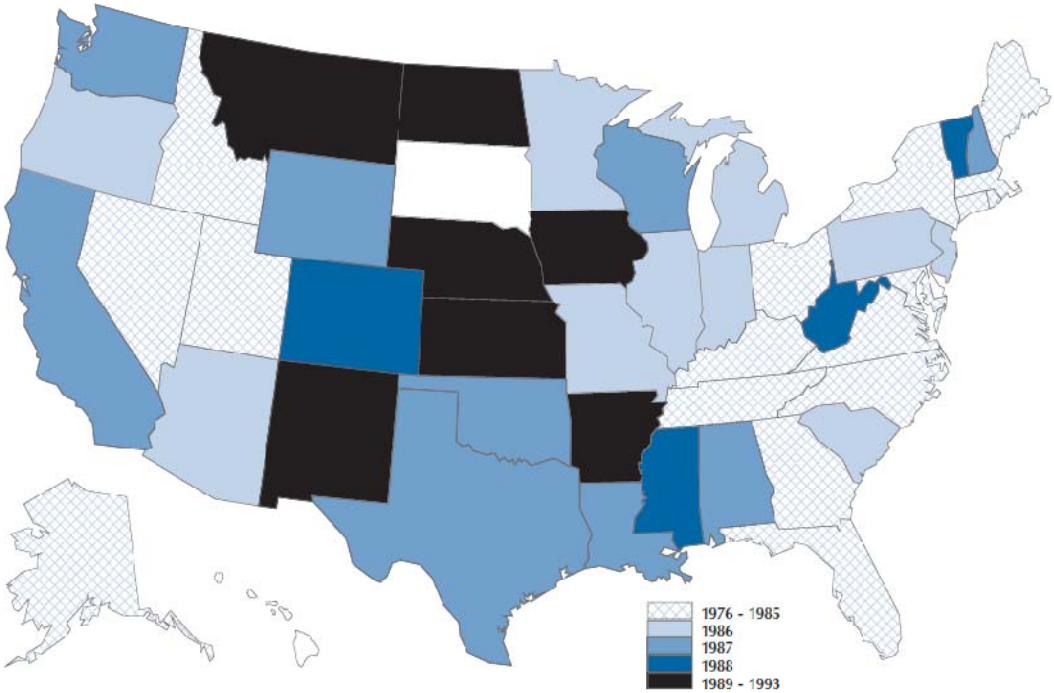
funds and technological innovation (Kroszner R. , 2001). Before the 1970s, most states restricted within-state branching, and all states forbade interstate branching (Kroszner & Strahan, 1998). Some state legislatures even passed "unit banking" laws that prevented a bank from having any branches (Kroszner R. , 2001). Deregulation of intrastate restrictions involves three reforms: formation of multi-bank holding companies, permitting branching by merger and acquisition, and permitting full state-wide branching (Kroszner & Strahan, 1998). The Bank Holding Company Act of 1956 prohibited bank holding companies headquartered in one state from acquiring a bank in another state (wikipedia). However, deregulation of interstate restrictions began in 1975 when Maine allowed out-of-state bank holding companies to acquire in-state banks (Kroszner & Strahan, 1998). In addition, the federal government made further allowances for multi-state banks with the passage of the *Depository Institutions Deregulation and Monetary Control Act* of 1980 and the *Garn-St. Germain Depository Institutions Act* of 1982, the latter of which amended the Bank Holding Company Act to allow failed banks and thrifts to be acquired by any bank holding company (Kroszner R. , 2001). Other deregulatory acts followed, which will be later addressed.

Figure 2: Deregulation of Restrictions on Intrastate Branching in the U.S.



Source: Wheelock (2003)

Figure 3: Deregulation of Restrictions on Interstate Branching in the U.S.



Source: Wheelock (2003)

2.2 What Motivates the Timing of the U.S. Banking Deregulation

Kroszner and Strahan (1998) used the private-interest and public-interest theories to explain the timing of branching deregulation across states. In the public-interest theory, the government is motivated by a desire to serve the public and acts as an instrument that improves society, while in the private-interest theory, the government has the same motivations that those in the private sector have, i.e. it is driven by self interest: wealth, fame, and power (Schenk, 1997-2007).

Table 1: The Impact of Economic Factors on the Timing of Deregulation Under Public and Private Interest Theories

Economic Factor	Empirical Proxy	Public Interest Theory Prediction	Private Interest Theory Prediction
Intra-industry Rivalry	Share of small banks in the state	Speed	Delay
Inter-industry Rivalry	Share of insurance where banks compete	Speed	Delay
Users: Small Borrowers	Share of small firms in the state	Speed	Speed

Source: Kroszner (2001)

- **Intra-industry rivalry**

  Small banks prefer branching restrictions because they protect them from competition from larger and more efficient banks (Kroszner & Strahan, 1998). Under the public interest theory, deregulation should occur earlier in states where small banks have more market share because a greater market share means greater social costs, and the private interest theory predicts that deregulation should occur later in the states where small banks have more market share and thus more political influence (Kroszner R. , 2001).

- **Inter-industry rivalry**

  If a state permits commercial banks to sell insurance, then the insurance lobby in that state would resist deregulation because it might enable banks to provide a more efficient insurance distribution network (Kroszner R. , 2001). Therefore, the private interest theory suggests that deregulation should occur later in states where banks can sell insurance, and the public interest theory suggests that reform should occur earlier in states where banks can sell insurance because that would yield more insurance options to the consumer (Kroszner & Strahan, 1998).

- **Small Borrowers**

  Branching deregulation reduces banks' local market power and improves conditions for borrowers (Kroszner R., 2001). Therefore, if borrowers benefit from branching deregulation then the private-interest theory predicts that states with many small, bank-dependent firms would deregulate earlier, and the same applies under the public-interest theory because the social costs of restrictions would be higher in states with more small, bank-dependent firms (Kroszner R. , 2001).

- **Bank Stability**

  Geographic diversification through branching alleviates instability reducing the incentives of banks to campaign to maintain protections; therefore both the private and public interest theories suggest that deregulation occurs earlier in states where banking instability is greatest (Kroszner & Strahan, 1998).

- **Political-Institutional Factors**

  Because Republicans are commonly viewed as more likely to favour deregulation than Democrats, states that are ruled by Republicans deregulate earlier than those ruled by Democrats (Kroszner R. , 2001).

2.3 Deregulation of the US Banking Industry: A Timeline of Legislative Acts

- **1980: Depository Institutions Deregulation and Monetary Control Act**

  Allowed banks to merge, removed the power of the Federal Reserve Board of Governors under the *Glass-Steagall Act*[2] and *Regulation Q*[3] to set the interest rates of savings account and raised the deposit insurance of U.S. banks and credit unions from $40,000 to $100,000 and allowed credit unions and savings and loans to offer checkable deposits and to charge any interest rates they chose (wikipedia).

- **1982: Garn-St. Germain Depository Institutions Act**

  Enabled banks and other savings institutions to compete more readily in the money market where it eliminated the interest rate ceiling and authorized them to make commercial loans (www.investopedia.com). It was intended to "revitalize the housing industry by strengthening the financial stability of home mortgage lending institutions and ensuring the availability of home mortgage loans" (Reagan, 1982).

[2] An Act passed on 16 June 1933, and officially named the **Banking Act of 1933**, which introduced the separation of bank types according to their business (commercial and investment banking), and founded the Federal Deposit Insurance Corporation (FDIC) for insuring bank deposits (wikipedia)

[3] A Federal Reserve Board regulation that limits the interest rate that banks can pay on savings deposits.

- **1994: Riegle-Neal Interstate Banking and Branching Efficiency Act**

  Repealed the interstate restrictions of the *Bank Holding Company Act* of 1956 and permitted banks to establish branches nationwide (www.answers.com).

- **1999: Gramm-Leach-Bliley Act**

  Repealed the parts of the Banking Act of 1933 that separated commercial banking from the securities business, and the parts of the Bank Holding Company Act of 1956 that separated commercial banking from the insurance business; thus, it permitted single holding companies to offer banking, securities, and insurance (Barth, Brumbaugh, & Wilcox, 2000).

- **2000: Commodity Futures Modernization Act**

  Prohibited the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission CFTC from regulating credit default swaps[4] (Maughan, 2008-2009).

[4] A credit default swap is derivative that is used to insure against the default of a collateralized debt.

3.0 Effects of Deregulation of the U.S. Banking System On the Real Economy

3.1 Banks' Efficiency

The objective of deregulation is to achieve balance between competition and efficiency versus safety and stability. Deregulation was driven by the belief that competition will lead bank prices toward a competitive norm, eliminate excess bank profit, increase failures among inefficient banks, and cause the industry in general to become more efficient (Grabowski, Rangan, & Rezvanian, 1994). Economic theory suggests that mergers – made possible by deregulation –allow inefficient banks to exit and more efficient firms to obtain efficient scale (Evanoff & Ors, 2008). Therefore, to the extent that deregulation of the sector can result in a more efficient flow of funds, the fewer the regulatory burdens, the better (Freeman, 2005). Financial regulation limits the opportunity for the better performing banks to grow and weakens the control that markets place on corporate managers because their jobs are secure, therefore they may be less motivated to increase shareholder value and efficiency, and minimize costs. Jayaratne and Strahan (1998) found that restrictions on the geographic expansion of banks hindered "the natural process of selection" whereby efficient banks grow at the expense of inefficient ones. Other studies have shown that restrictions on geographic expansion and the regulations that restrained the scope of banking activities limited financial institutions' ability to pursue economies of scale and adversely affected the total factor productivity of U.S. banks (e.g. Daniels & Tirtiroglu, 2005). On the other hand, geographic banking and branching deregulation may result in improved financial market efficiency through diversification and improved loan portfolios, reductions in bank costs, product

innovation, and increased service availability (Clarke, 2004). However, Grabowski et al (1994) found little improvement in the banking efficiency and technology following the reform, where the source for inefficiency seemed to be technical rather than allocative, i.e. output was not lost due to underutilizing or wasting resources. A possible explanation is that the efficiency of some banks may have improved while that of others diminished causing the overall result to reflect little progress in efficiency (Grabowski, Rangan, & Rezvanian, 1994). In a study conducted by Stiroh and Strahan (2003), they found that after deregulation, the better performing institutions had greater market shares. Banking deregulation permitted the better-run banks to progress over their less-efficient competitors and brought about more acquisitions, enhanced integration and a decline in the market share of the less efficient banks; as a result banks were able to offer better quality services at lower prices (Strahan P. E., 2003). Thus, most of the evidence support the notion that deregulation leads to competition which significantly impacts the behavior of banks causing them to be generally more productive and efficient.

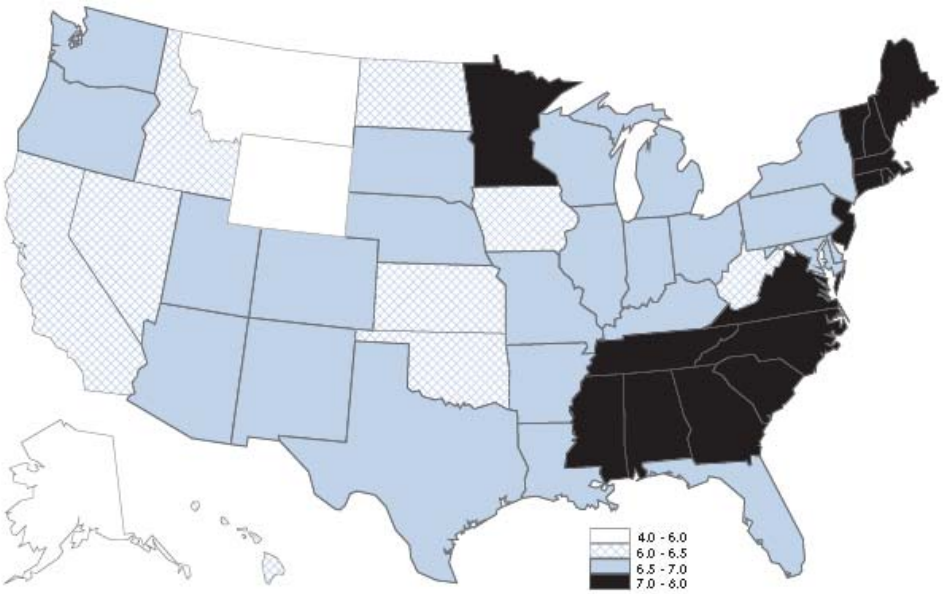
3.2 Growth Performance

A well-functioning financial system exerts a powerful influence on a country's economic growth. Through its effect on the efficiency of the banking industry, deregulation may expedite growth in real per capita income and hence promote economic growth. In addition, deregulation would yield growth effects through its influence on the size of banking market whereby states with the largest banking markets are expected to experience the greatest growth and states with smaller banking markets would experience lower growth (Clarke,

2004). Jayartne and Strahan (1997) found that annual personal income grows by about 0.51 percentage points faster after branching deregulation, and gross state product, about 0.69 percentage points faster. Strahan (2003) also proves that average growth accelerated by about 0.56 percentage points after branching reform, and rose by 0.48 percentage points after interstate banking reform. Consistent with Strahan's findings, Clarke (2004) found a substantial short-run growth effects from branching and banking reform where a 10% increase in banking market size from its mean value would produce an estimated 1.9% increase in the annual growth rate. However, these significant growth effects may have stemmed from the sharp reduction in growth and subsequent rebound during the period surrounding reform in each state (Freeman, 2002). Banking deregulation occurred during a time of an economic downturn, when states were suffering from significant bank losses and failures due to state specific shocks (Federal Deposit Insurance Corporation, 1997). Additionally, Freeman (2002) argues that the short duration of the samples in earlier studies may have caused the correlation between the economic shock and the regressor indicator variable to overstate the effect on economic growth. Freeman (2002) provided evidence that real incomes in states that deregulated were on average four percentage points below trend at the time of deregulation, and recoiled slowly after. He argues that deregulation is endogenous to state economic conditions, and that this endogeneity "would impart an upward bias to the estimates of the effect of deregulation on state economic growth" (Freeman, 2002). This indicates that reform of bank branching laws might lead to a more efficient banking sector and to stronger economic growth, but the growth effects will not be significant nor long-standing (Freeman, 2002).

Figure 4 illustrates the average per capita income growth rate by state. It shows that average growth tended to be higher in states that deregulated earlier[5] (Wheelock, 2003).

Figure 4: Average per Capita Income Growth Rate by State, 1976-96



Source: Wheelock (2003)

3.3 Consumer Welfare

Deregulation plays a central role in the changing attributes and choices available to consumers. Proponents of deregulation allege that it would enhance efficiency and competition with beneficial results to consumers, while opponents argue that it would lead to highly concentrated banking markets with high returns which will bring about detrimental effects on consumer welfare (Dick, 2008). Chan-Mak (1985) developed an analytical model to examine the impact of deregulation on depositors' welfare and the soundness of the insurance

[5] Compare with figures 2 and 3 on page 20.

system. They found that the optimal level of regulation depends on the functional relationship between risk and return, and that deregulation will entail tradeoff between depositors' welfare and the solidarity of the insurance system. Dick (2008) found that welfare effects are not just driven by prices, but also by varying components of banking services. He concluded that consumer decisions are based on prices and bank characteristics and in choosing a depository institution, consumers base their decisions mostly on deposit rates. Moreover, his results suggest that consumers respond favorably to the branch staffing and geographic density, as well as to the bank's size and geographic diversification. Based on the distribution of welfare change, Dick (2008) found that consumers in most markets experienced a gain in welfare, with a mean of $0.005–0.01 per consumer per year. Thus, the changes in bank services that evolved after deregulation did not have a considerably adverse impact on consumers; instead, consumers in most markets experienced a slight increase in welfare following deregulation (Dick, 2008).

3.4 Income Distribution

Financial markets substantively influence the distribution of income. When deregulation was advocated, there were concerns that the resulting increase in competition would encourage entry thus expanding the banking market and extending the income distribution as the wealthy individuals reap the benefits of the reform. Regulation of banks would enable them to maintain monopoly status thereby reducing competition and allowing them to acquire more profits by charging higher fees and interest rates; from this view, deregulation of restrictions would create economic opportunities to the advantage of low-income individuals (Flannery,

1984; Jayartne & Strahan, 1998). Beck et al (2007) found that deregulation of branching restrictions condensed the distribution of income by disproportionately helping lower income workers. Their results suggest that the removal of restrictions on intrastate branching eased inequality by raising the incomes of the poor, rather than by diminishing the incomes of the rich where the average incomes of individuals in the bottom quarter of the distribution increased by more than five percent while the incomes of those in the upper half were not greatly impacted (Beck, Levine, & Levkov, 2007). These results are consistent with the view that the removal of branching restrictions generated changes in banking behavior that had disproportionately positive outcomes on lower income individuals.

3.5 Entrepreneurial Activities and Business Cycle Stability

It is expected of young entrepreneurs to be reliant on banks and financial markets for their cash flow needs because they do not yet have the sufficient funds to undertake investment which is a key determinant of economic growth, therefore financial institutions play a major role in providing funds creating the necessary means through which finance aids growth (Black & Strahan, 2002; Schumpeter, 1969). Strahan (2003) performed a panel regression to test how entrepreneurial activity changed after banking deregulation and found that the level and growth of entrepreneurial activity increased after banking deregulation where the annual level of new incorporations per capita increased by 9.8 percent following branching deregulation and by 5.7 percent after interstate banking reform. In terms of the effects on business cycle stability, branching restrictions were an important source of instability in the U.S. banking system making it susceptible to banking panics (Wheelock, 2003; Friedman & Schwartz, 1963).

Interstate banking deregulation in the United States contributed to a banking system better integrated nationally, thus diminishing employment growth fluctuations within states, and decreasing deviations within employment growth across states (Morgan, Rime, & Strahan, 2002). Strahan (2003) tested the correlation between economic performance and banking performance where the results suggested that business cycle volatility declined by 0.47 percentage points after interstate banking and by 0.04 percentage points following branching deregulation. This indicates that the effects of branching deregulation were not significant, the reason being that branching deregulation allowed integration *within* the state and not *across* the states (Strahan P. E., 2003). Nevertheless, his results suggest that financial deregulation has beneficial effects on the business cycle by insulating – even if by a small scale - the economy from the volatility of the banking system.

4.0 Regulation and the Subprime Mortgage Crisis

"The reality is that crises are more often caused by bad regulation than by deregulation."
(Niall Ferguson)

4.1 Subprime Mortgage Crisis

The subprime mortgage crisis is an ongoing financial crisis that was prompted by a sharp escalation in mortgage delinquencies and foreclosures – mainly subprime – in the United States. The crisis propelled a series of economic and financial hardship that stretched out to almost all facets of the local economy and was successfully exported to the global economy. The crisis significantly impacted the U.S. housing market creating depression-like conditions and steering the U.S. economy to the edge of recession, and ultimately spilling over into the global credit market as risk premiums increased dramatically and liquidity dwindled. The surge in foreclosures and the complications in the subprime mortgage market were mainly attributed to lax lending practices, low interest rates, a housing bubble and imprudent risk taking by lenders and investors (www.investopedia.com). The subprime mortgage crisis and the practice of subprime lending have led to a credit crunch – a restriction on the availability of credit in world financial markets – thus slowing economic activity.

Subprime lending is lending at a higher rate (than the prime rate) mainly to low-middle income borrowers with poor credit scores and/or high debt load who want to buy a home in the inflated housing market. Because these borrowers typically carry higher risk, lenders charge them higher-than-conventional interest rates, or they provide them with adjustable rate

loans that impose low introductory interest rates which rise sharply within a few years. Subprime lending is a debatable issue because it generally targets the most vulnerable who could not conceive the extent of the contract that they are signing and could not meet the terms of their loans. Subprime borrowers have limited repayment capacity; therefore subprime loans have a much higher risk of default - failure to pay back a loan - than loans to prime borrowers. If a borrower is delinquent in making prompt mortgage payments, the lender may assume possession of the property in a process called foreclosure. Hence, many subprime loans frequently lead to default, seizure of collateral, and mortgage foreclosure.

In the aftermath of the tech bubble and September 11, the Federal Reserve fostered a struggling economy by reducing interest rates to unprecedented low levels (www.investopedia.com). Prior to 2005-2006, there was massive competition among mortgage lenders to earn a bigger share of the mortgage market, and therefore many adopted loose lending requirements offering low introductory mortgage rates to gain real estate buyers' business. Borrowers falsely believed that they would be able to refinance their debts at more favourable terms as easy initial terms were enacted and housing prices continued to be on the rise. Mortgage lenders developed non-conventional mortgages such as ones with adjustable rates and others with extended amortization periods, which encouraged further leveraging. In addition, the United States received a significant influx of money from fast-growing economies in Asia and oil-rich countries which, combined with the low interest rates, resulted in credit conditions that were so accessible further igniting both the housing and credit bubbles. As new

financial agreements called mortgage-backed securities (MBS)[6] increased, global institutions started investing in the U.S. housing market spreading the cancer of subprime mortgages across the globe. These series of events contributed to a housing bull market where borrowers who were unqualified by conventional standards, exploited the situation and dipped their toes into the real estate market until a sharp peak in house demand created a buying frenzy causing a "housing bubble".

The burst of the U.S. housing bubble marks the official advent of the subprime mortgage crisis. When the interest rates of the adjustable mortgages started to rise back to normal market levels, many of the new homeowners found themselves unable to sustain the higher payments. The decline in the U.S. house prices that began in 2006-2007 combined with the higher rates and the expiration of the easy initial terms brought further complications to refinancing leading to a dramatic increase in defaults and foreclosures. Global financial institutions that were heavily involved in subprime MBS suffered significant losses and did not have ample financial cushion to soak up the losses. Worldwide losses are estimated at $4 trillion, two thirds of which would be suffered by banks (IMF, April 2009). In the United States, 26 banks failed in 2008 and 89 banks failed so far in 2009 (FDIC, 2009)

4.2 The Role of Fannie Mae and Freddie Mac in the Subprime Crisis

While it is believed that many factors played vital roles in exacerbating the extent of the turmoil, it is also believed that certain government policies were important contributors to the

[6] MBS is a security or debt obligation which derives its value from mortgage payments and housing prices.

crisis. Examples of failed government regulation include Fannie Mae and Freddie Mac, both of which played major roles in the expansion of higher-risk lending which ultimately led to the crisis.

Several presidents including Roosevelt, Reagan, Clinton and George W. Bush had a goal in mind; they all wanted to increase home ownership. As part of the New Deal, the Federal National Mortgage Association (Fannie Mae) was founded in 1938 and its brother company the Federal Home Loan Mortgage Corporation (Freddie Mac) in 1968. Fannie Mae and Freddie Mac were designed to supply banks with federal money in a secondary mortgage market where existing mortgage loans were bought and sold. They were privately owned but government-sponsored enterprises (GSEs) that purchased mortgages, traded mortgage-backed securities, and guaranteed nearly half of the mortgages in the United States. They were exempt from state and local taxes, and because they were able to borrow at a lower cost than other investors, the government granted them an annual subsidy of nearly $6.5 billion to bolster their mechanism of providing mortgages to low-income families (Leonnig, 2008). The guarantee and support that the Federal government provided them had allowed them to engage in risky investments with less reserve capital allowing them to use huge amounts of leverage. In addition, the way the GSEs were designed helped develop an accessible and artificial profit opportunity for lenders to sell subprime loans to a government-backed buyer whose motive was to "increase homeownership", not to apply safe lending standards.

Beginning in the mid-1990s, pressure from the government to increase home ownership and pressure from the shareholders to maximize profit have led the GSEs to seek out new opportunities and take on more chances. In 1992, Fannie Mae was under extreme pressure from Countrywide Financial, the largest mortgage lender in the United States, to buy its riskier home loans. To satisfy the government demands of extending loans to low income neighbourhoods and the demands of hedge fund managers to increase returns have led the company to engage in unsafe financial activities and become over-leveraged. Fannie Mae and Freddie Mac became involved in the subprime market in 1995 when the government began offering tax incentives for purchasing mortgage backed securities including loans to low income borrowers. The U.S. Department of Housing and Urban Development (HUD) dictated that the GSEs provide 42% of their purchased mortgages to borrowers whose income was below their area's median. HUD's affordable housing target was then raised to 50% in 2000 and to 52% in 2005 (Roberts, 2008). HUD's outdated policy allowed Freddie Mac and Fannie Mae to regard their investment in subprime loans as a public good that would promote affordable housing (Leonnig, 2008). From 2002 to 2006, as the U.S. subprime market grew 292% over previous years, Fannie Mae and Freddie Mac combined purchases of subprime securities increased from $38 billion to $175 billion per year before falling to $90 billion per year, which included $350 billion of Alt-A[7] securities (wikipedia). From 2004 to 2008, Fannie Mae purchased $270 billion in home loans to risky borrowers (Duhigg, 2008) By 2008, Fannie Mae and Freddie Mac owned $5.1 trillion in residential mortgages, about half the total U.S.

[7] An Alt-A mortgage is characterized by borrowers with lower credit scores and higher loan-to-values, and is considered riskier than prime but less risky than subprime.

mortgage market (Federal Reserve , 2009). The GSEs have always been highly leveraged, their net worth as of 30 June 2008 was only $114 billion (Federal Reserve , 2009). Concerns were raised as the GSE losses started mounting, which reflected their inability to raise capital and make good on their guarantees. Therefore, to keep the GSEs solvent and to prevent further disruption to the U.S. housing financial market, the Federal government placed Fannie Mae and Freddie Mac into a conservatorship by the Federal Housing Finance Agency (FHFA) in September 2008, nationalizing them at the expense of taxpayers.

4.3 How the Community Reinvestment Act (CRA) Fuelled the Crisis

There was another government policy which compelled banks to give loans to low-income borrowers resulting in the thousands of mortgage defaults and foreclosures in the subprime housing market. The policy in question is the Community Reinvestment Act (CRA), which was enacted by Congress in 1977 and was proposed "to encourage depository institutions to help meet the credit needs of the communities in which they operate, including low- and moderate-income neighbourhoods, consistent with safe and sound operations," according to the Federal Reserve Board. The CRA was mainly intended to prevent redlining, a discriminatory practice of denying or increasing the cost of services such as banking, insurance, etc. to residents in certain, often racially determined areas (Thabit, 2005).

The CRA forced banks to adopt irrational lending standards and to approve financially unsound loans to borrowers in poor communities. When repeal of the Glass-Steagall Act in 1999 allowed commercial banks and investment banks to consolidate – subject to approval by

regulators – the banks' CRA rating was a critical factor in the decision. Banks were required to prove to regulators that they were not engaging in discriminatory practices, otherwise any application for merger and acquisition would be denied. As a result, banks were under deep pressure to engage in risky loans in order to raise their CRA rating, which became an essential prerequisite for mergers and expansion. In the years that followed the CRA's passage, lending to low and middle income neighborhood residents increased significantly. Between 1993 and 1997, home purchase loans to low income borrowers increased by 37% and for moderate income borrowers by 29% (Minton, 2008). For residents of low-moderate income neighborhoods, the increase in home-purchase-loan writing was 43% for low income neighborhoods and 32% for moderate income neighborhoods (Federal Reserve Bank of San Francisco, 2004).

In the aftermath of the subprime mortgage crisis, there are differing views on how "safe and sound" were the operations of the CRA-covered banks. Critics of the Act have charged that irrational lending standards were forced on the lenders by the Act and that banks have been compelled to make risky loans in neighbourhoods with declining property values and to unprepared borrowers who normally would be rejected as bad credit risks. Detractors also claim that amendments to the CRA in the mid-1990s gave far more power to the federal government to punish banks for not lending more widely in poor neighbourhoods and this raised the amount of mortgages issued to unqualified low-income borrowers, and allowed the securitization of CRA-regulated mortgages, even though a fair number of them were subprime. Advocates have responded by claiming a thirty year history of lending without

increased risk and that the coverage of CRA was relaxed for smaller financial institutions in 2002, and that lenders not covered by CRA have been making a disproportionate share of subprime mortgages. While the issue of how much blame to assign the CRA in charging the crisis remains a grey area, it is clear that they are linked to an extent.

5.0 Where Deregulation Went Wrong: Savings and Loan Crisis and the Current Crisis

5.1 How Deregulation Fed the Savings and Loan Crisis

The Savings and Loan (S&L) Crisis was one of the largest financial scandals in U.S. history creating great banking collapses. Seeds of the crisis were sown in the late 1970s, but became apparent in the 1980s and finally came to an end in the early 1990s. The collapse of the thrift industry was caused by a complex web of factors combined with widespread corruption, and an overall decline in regulatory oversight.

The savings and loan industry has been the primary source of home mortgages for American families since 1932 (MacDonald & Dowling, 1993). Savings and loan associations were specialized financial institutions that funded mortgages through low-interest deposits in savings accounts insured by the government. Until the late 1970s, the savings and loan industry was strictly regulated and profitable because regulation had put a ceiling on the interest rate that S&Ls could offer to depositors, which succeeded in dampening the competition for depositor funds between banks and S&Ls. However, high inflation in the late 1970s sparked by a doubling of oil prices together with the development of the money market mutual funds which offered higher interest rates reduced the attractiveness of savings accounts and led to disintermediation. Depositors withdrew their funds from the savings and loan associations and invested them in other financial institutions that offered higher interest rates (MacDonald & Dowling, 1993). These changes threatened to cause hundreds of S&L

failures and led the banks to ask Congress to remove the restrictions. In an effort to provide relief, the federal government passed two laws: the *Depository Institutions Deregulation and Monetary Control Act* in 1980 and the *Garn-St. Germain Depository Institutions* Act in 1982. The former increased the deposit insurance coverage from $40,000 per account to $100,000, extended the federal override of state interest rate ceilings on various loans, and extended the authorization of negotiable order of withdrawal (NOW)[8] accounts in hopes that these accounts would provide S&Ls with a lower-cost source of funds. The *Garn-St. Germain Depository Institutions Act* mandated the complete-phase out of interest rate floors and ceilings (Regulation Q) and allowed S&Ls to raise interest rates on deposits, make commercial and consumer loans, and removed restrictions on loan-to-value ratios. These two pieces of legislation sought to enhance the S&L industry's ability to compete with other financial institutions and were intended to allow S&Ls to grow out of their problems. Other changes in thrift oversight included authorizing the use of more lenient accounting rules to report their financial condition, and the elimination of restrictions on the minimum numbers of S&L stockholders (Curry & Shibut, 2000). The Garn-St. Germain Act expanded the scope of activities carried out by the S&Ls giving them new and wider investment powers and allowing them to compete with full service banks. The deregulation of S&Ls permitted them to enter new areas of business to promote greater profitability, enabled them to offer a wider array of savings products, significantly expanded their lending authority and widened their investment opportunities. Although these measures initially appeared to have a positive

[8] An interest-earning bank account with which the customer is permitted to write drafts against money held on deposit (www.investopedia.com)

impact on the industry, something more ominous occurred in the mid-1980s: a dramatic escalation in the number of savings and loans becoming insolvent.

As S&L regulations loosened, the S&L's lending and investment authority was greatly expanded. The S&Ls were left to carry out their operations in an anarchistic gray area, as they pursued profits by experimenting in complex and risky investments, and produced cheap mortgages that fuelled a real estate boom. In further attempts to increase capital, S&Ls also got involved in speculative commercial real estate lending and investments in junk bonds, without having any economic models to determine the value and worth of what they were purchasing and more importantly without adequate regulatory oversight. In addition, because S&L deposits were insured by the Federal Savings and Loan Insurance Corporation (FSLIC), depositors continued to put money into these risky institutions. The result was a heaping pile of bad debts and worthless assets.

By 1983, 35% of the S&Ls were not profitable, and 9% were insolvent or bankrupt. Over the 1986–1995 period, 1,043 thrifts with total assets of over $500 billion failed and over 1,600 banks insured by the FDIC were shut down or received FDIC financial assistance. As the number of failed banks increased, the state and Federal insurance began to run out of the money needed to refund depositors, but S&Ls remained open making bad loans, and the losses kept mounting. By 1989, over half the Savings and Loans had failed, along with the FSLIC fund causing the president and Congress to reveal a tax-payer financed bailout plan known as the *Financial Institutions Reform Recovery and Enforcement Act* (FIRREA). The thrift crisis had cost

taxpayers approximately $124 billion and the thrift industry another $29 billion, for an estimated total loss of approximately $153 billion (Curry & Shibut, 2000). To shut down failed banks and prevent further losses, FIRREA provided $50 billion in loss funds, modified S&L regulations to protect against poor investments and fraud, and set up the Resolution Trust Corporation (RTC). The RTC was a government agency that was created to absorb the assets and debts from failed banks by reselling the assets and using the receipts to repay depositors. The slowdown in the finance industry and the real estate market may have contributed to the recession of 1990-91, where the number of new homes constructed decreased from 1.8 to 1 million between 1986 and 1991 (Diamond & Lea, 1992). In addition, the government bailout that was funded by taxpayers may have created a moral hazard where lenders were encouraged to make similar high risk loans during the 2007 subprime mortgage crisis (Weiner, 2007).

5.2 Deregulation and the Current Crisis: The Gramm-Leach-Bliley Act and the Commodity Futures Modernization Act

In 1999, U.S. senate Phil Gramm pushed through a historic banking deregulation bill that destroyed Depression-era firewalls between commercial banks, investment banks, insurance companies, and securities firms—setting off a wave of merger mania (Corn, 2008). The U.S. Congress passed the *Gramm-Leach-Bliley Act*, which repealed part of the *Glass-Steagall Act* of 1933 reducing the separation between commercial banks – which have a conservative culture – and investment banks, which have a risk-taking culture. The Gramm-Leach-Bliley Act was criticized for undermining the nature of systematic risks in financial systems and many

economic experts blamed the bill for creating the current financial turmoil that shook the world.

The main purpose of commercial banks is to manage people's money very conservatively, rather than act as high-risk ventures, while investment banks take on the role of managing rich people's money or people who can take bigger risks in order to gain higher returns (Stiglitz, 2009). The Act resulted in conveying the risk-taking culture of investment banks to commercial banks which became directly involved in the stock market, bonds and insurance. Consequently, everyone got involved in the high-risk gambling mentality which was core to the problem that we are facing now. The Act brought about tremendous bank buyouts and mergers, and caused massive growth in the size of the financial institutions. While the Act ensured that these properties were "too big to fail", the reality is that the existence and downfall of these monster businesses were enough to threaten the whole system. Just like the S&Ls which failed because they did not have the regulations to protect them, the banks did not have that protection either making their failure eminent. As banks and other financial institutions grew, demand for high returns also grew. To obtain greater profits, the financial institutions resorted to excessive leveraging and unwise risk taking. The Gramm-Leach-Bliley Act therefore contributed to the current crisis by allowing the risk-taking strategy of investment banking to govern the more conservative commercial banking culture leading to increased levels of risk-taking and leverage during the boom period.

There was another important step down the deregulatory path which helped contribute to the crisis. The poster child for the failure of the deregulated financial sector is the market for credit default swaps (Murphy, 2009). The U.S. Congress allowed the self-regulation of the derivatives market through the *Commodity Futures Modernization Act* in 2000. The derivative itself is a contract between two or more parties whose value is determined by fluctuations in the underlying assets, such as stocks, bonds, interest rates, etc., and is used as an instrument to hedge risk, but can also be used for speculative purposes (www.investopedia.com). "Credit default swaps are the most widely traded form of derivatives. They are bets between two parties on whether or not a company will default on its bonds. In a typical default swap, the 'protection buyer' gets a large payoff if the company defaults within a certain period of time, while the 'protection seller' collects periodic payments for assuming the risk of default" (Brown, 2008). Thus, the credit default swaps resemble insurance policies, but because there is no requirement to hold any asset or suffer any loss, these swaps made it safe for banks to assume riskier forms of debt. Warren Buffett, a U.S. investor and philanthropist, famously referred to derivatives as "financial weapons of mass destruction" in early 2003.

As a result of the Commodity Futures Modernization Act, the range of futures trading was significantly enhanced where new speculative vehicles were created. In addition, the Act evaded the regulatory examination of the CDS market making it almost completely obscure; their existence was even indirectly monitored by the Securities and Exchange Commission (SEC). The credit default swaps were traded over the counter without being governed by any exchange and no one knew their actual worth. Credit default swaps allowed the banks to share

risks to the extent that these banks competed with each other to find even more risks to bet on. The deregulation of the CDS market provided a flood of easy credit resulting in a real estate boom and soaring home prices; the presumed "safety" of the credit default swaps gave rise to the subprime mortgage market. As the banks piled up junk mortgages, they heaped on even more of the credit default swaps – and they still had no idea how to value them. "Worse, they began to trade the swaps themselves as if they were an investment, treating them like something worth holding instead of a big bundle of cartoon bombs whose fuses were already lit" (Mayer, 2008). The credit default swaps were traded without any regard for the quality of the underlying investment and because they were not regulated by any agency, it was possible to obtain swaps that cover billions of dollars in loans without having sufficient assets to cover the losses (Mayer, 2008).

The unregulated derivatives market has been estimated to be $62 trillion, or nearly four times the size of the entire US stock market (Wilson, 2008). By July 2008, the global derivatives market had grown to $530 trillion, while credit default swaps had grown to $55 billion (Blumenthal, 2009). The volume of CDS outstanding increased 100-fold from 1998 to 2008, with estimates of the debt covered by CDS contracts, as of November 2008, ranging from US$33 to $47 trillion (wikipedia). Total over-the-counter (OTC) derivative notional value rose to $683 trillion by June 2008 (Figlewski, Smith, & Walter, 2009). While the credit default swaps were at the heart of the subprime crisis, they did not cause the crisis itself. However, deregulating the swap market did fuel the crisis and hastened the collapses of major global financial institutions. When the credit crisis and the mortgage meltdown began to unravel, major firms

discovered that the swaps made their investments far more risky than they could take in: Bear Stearns, Lehman Brothers, and American International Group (AIG) all collapsed due to problems with the unregulated market of credit default swaps and the major banks - JP Morgan Chase, Citibank, Bank of America and Wachovia - were also heavily involved with credit default swaps (Blumenthal, 2009) As a result, Wachovia collapsed, Bank of America received approximately $45 billion from the Treasury Department to offset its losses, Citibank's parent company Citigroup faced a complete meltdown during the end of 2008, and JP Morgan Chase received $25 billion in Troubled Asset Relief Program (TARP) funds (Blumenthal, 2009).

6.0 How Canadian Banks Weathered the Crisis: A Comparison between Canadian and American Banking Regulations

6.1 Canada: "World's Soundest Banking System"

While the United States is stumbling from the global financial crisis, with frozen credit markets and stock prices staggering from highs to lows, Canada has remained relatively stable. In Canada, there have been no failures of financial institutions, no subprime mortgage or foreclosure mess, no large scale bailout of banks and the financial system did not undergo severe systemic pressures like it did in the United States. In addition, the American economy has been hit twice as hard as Canada: in the fourth quarter of 2008, the Canadian economy shrank by 3.4%, while the U. S. economy contracted by 6.2%. (Statistics Canada, 2008). When compared to all other G7 countries, Canada has been spared the worst of a "synchronized global recession".

According to the International Monetary Fund, Canada's financial system has "displayed remarkable stability" and its banks and other financial institutions are sound and well-capitalized amid the turbulence. The Canadian financial sector is among the world's most highly developed and offers many examples of best practice; the institutions, markets, infrastructure, safety nets, and oversight arrangements that comprise the system are sophisticated, and include a full range of financial intermediaries (IMF Country Report, 2008). "Canadian banks entered the crisis with strong financial reserves, and have skated through it without the catastrophic losses experienced by the U.S. banks, and without the government

capital injections that are sending the American financial institutions down the slippery slope toward nationalization" (Perkins, 2009). In October 2008, the World Economic Forum ranked Canada's financial institutions No. 1 in the world for solvency. The U.S. banks came in 40th.

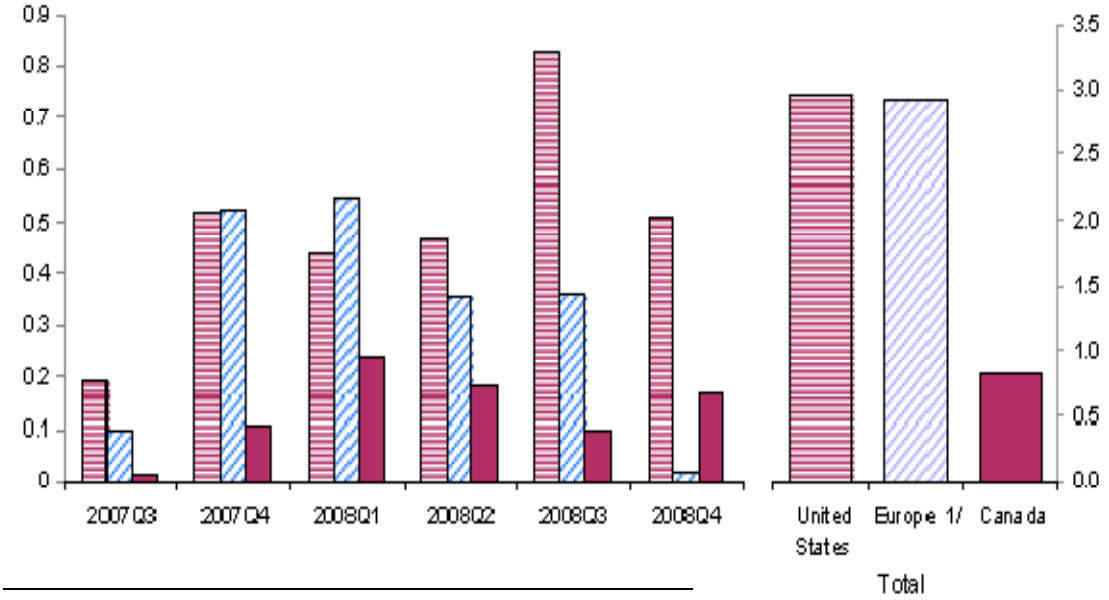
Although Canadian banks have shown remarkable resilience during this crisis, the worldwide havoc did not completely bypass Canada. The appreciation of the Canadian dollar has harmed exports. Due to Canada's strong ties with the United States in terms of financial and economic linkages, it has not been able to weather the economic tsunami from the south. The slowdown in the United States - Canada's largest trading partner importing 80% of its products - has a direct impact here: what Americans are not buying is directly what Canadians export. However, while the crisis has been felt in Canada with soaring unemployment rates and negative GDP growth, it is not expected to be as deep nor last as long as in the United States, and this may be partly attributed to the more conservative management of Canadian banks.

6.2 Why Canada's Financial System is More Stable

There are several key distinctions in banking regulations between Canada and the United States that helped shield Canadians from the mayhem that the Americans are suffering. A distinct feature of Canada's financial system is the existence of a single powerful regulator, the Office of the Superintendent of Financial Institutions (OSFI) which has a mandate to roam across banks, insurance companies and pension plans. This characteristic allows policy development in Canada to be streamlined, reduces compliance costs and improves enforcement (IMF Country Report, 2008). In contrast, the U.S. has in place multiple financial

regulatory agencies which operate independently of one another and do not exercise inter-agency cooperation. In Canada there are regular meetings among officials of the OSFI and other government agencies to discuss and exchange regulatory information. In addition, the federal authorities in Canada review the financial regulations every 5 years whereas in the United States it is not clear if a similar process exists. Canada has also a more prudent banking culture and a more stringent regulatory framework. Canadian banks are more conservative in terms of lending, and defaulting on a loan is more difficult than in the United States (Richburg, 2008). Unlike many U.S. banks, Canadian banks continue to apply some of the best practices with respect to supervision of institutions including the new Basel Accord[9] principles for banking control. As a result, write-downs[10] by Canadian banks have been much smaller when compared to the United States as shown in figure 5.

Figure 5: Bank Write-Downs
(In percent of 2008 GDP)



Source: Bloomberg

[9] Basel Accord refers to international recommendations on banking laws and regulations.
[10] A write-down or write-off describes a reduction in the book value of an asset because it is overvalued compared to the market value. It is reflected in the company's income statement as an expense thereby reducing net income.

Canadian banks are also more liquid and they maintain high quality capital reserves that are beyond international standards by adhering to stricter capital requirements. Canadian bank's Tier 1 Capital Ratio – percentage of a bank's capital to its risk-weighted assets – exceeds 7% which is higher than the 4% required by the Basel Accord, thus limiting the bank's use of borrowed funds for investment and further insulating them from the woes suffered by their American counterparts. Canadian banks are also less highly leveraged with a leverage ratio that is limited to just 5% of total capital or up to 20% maximum, on the other hand U.S. banks are allowed up to 33% "based on their strength and sophistication" (IMF Country Report, 2008). Canadian banks are national in scope and each of Canada's five major banks has branches in all provinces, therefore, they are less vulnerable to regional downturns and can move capital from region to region as needed, whereas in the United States no bank has branches in all 50 states (Richburg, 2008).

In addition to the differences between Canadian and U.S. banking regulations, there are also differences between their housing systems. In Canada, there is no government policy that encourages home ownership and mortgage interest is not tax deductible making it harder to buy a house. As a result, Canada did not have as strong a construction surge as the United States did during the boom years, and thus does not now have a big oversupply (Richburg, 2008). On average, Canadian home prices are roughly 200% what they were in 1989 and in the United States, the corresponding ratio peaked at 260% before crashing down to 220% (Kay, 2008). Canada has stricter rules on down payments and mortgage lending where any mortgage that will finance more than 80% of the price of a home must be insured. Two-thirds

of all Canadian mortgages are insured by the quasi-governmental Canadian Mortgage and Housing Corporation (CMHC), as a result of the tough standards for insurance, Canadians tend to not get mortgages they cannot afford (Richburg, 2008). In the United States, 25% of all mortgages are subprime, whereas Canada's subprime mortgage market represents only 5% of mortgages. The majority of mortgages are held on balance sheet in Canada thus ensuring the quality of the loans. Only 24% of Canadian mortgages have been packaged into securities for sale to other investors (Scotiabank , 2008). Furthermore, those 24% have mostly been securitized through the CMHC (Kay, 2008). In the United States, 60% of mortgages are securitized. Lastly, there are a lot fewer foreclosure notices in Canada. In the United States, 4.5% of mortgages are in 90-day arrears and in Canada, only 0.27% of mortgages are three months overdue (Kay, 2008).

It is clearly easier to set up a regulatory regime for Canada, which has just five major banks as opposed to the United States where many more banks are involved. Additionally, cultural differences may have benefited Canadian regulators. Canadians were more willing to accept "strong government intervention" while Americans were more likely to resist (Somerville, 2009). Thus, Canada's banks were able to avoid the pitfalls swallowing up the United States by adhering to a prudent, risk-averse, and well-regulated structure.

Conclusion

The wave of financial innovation that has occurred over the last 30 years had beneficial outcomes on the economy. Investors enjoyed wider choice with the development of new vehicles like hedge funds and securitization which reduced borrowing costs for consumers. Furthermore, the globalization of finance increased growth rates in emerging economies driving many people out of poverty. While it cannot be argued that rules are necessary for markets to perform efficiently for the common good of the society, but what types of rules are better? Rules enforced by the government are usually less efficient than rules that emerge as a result of the voluntary interactions of individuals and companies. Government regulation imposes costs on individuals and on society as a whole: welfare loss, rent seeking cost and x-inefficiencies. On the other hand, deregulation brings competition and consequently lower prices, greater efficiency and technological advancement in many sectors of industrialized and developing countries. The deregulation of restrictions on bank entry and expansion significantly impacted the U.S. banking industry. Studies have shown that deregulation improves financial market efficiency through which it promotes economic growth, although the extent to which deregulation results in a stronger economic growth is mixed to date. Effects on consumer welfare are multi-faceted because on one hand deregulation could bring about greater efficiency with benefits to consumers, and on the other hand it could lead to a concentrated banking market that is detrimental to consumer welfare. Deregulation could also trigger changes in banking behaviour that disproportionately help lower income workers and thus tighten the income distribution. Increases in entrepreneurial activity and reduction of the

sensitivity of the economy to the ups and downs of its banks can also result from the removal of restrictions on the banking industry.

In light of the current financial crisis, many have laid the blame on insufficient regulation for causing the bubble and the eventual burst. Nonetheless, given that the U.S. government was behind every wheel influencing every aspect of the mortgage crisis, it may be unreasonable to call today's situation the result of insufficient regulation. The Community Reinvestment Act and the GSEs Fannie Mae and Freddie Mac serve as examples of why government regulation should be relaxed. These and several other government policies caused imprudent lending which contributed to creating a situation in which millions of people were buying homes they could not afford, in which the participants experienced the illusion of prosperity, in which billions upon billions of dollars were going into bad investments. Nonetheless, the deregulation and the extravagant amount of liquidity made readily available to the system also set the stage for the bubble and the bust: the blend of the Gramm-Leach-Bliley Act and the Commodity Futures Modernization Act was a toxic cocktail that yielded adverse repercussions. In short, both failed government regulation and deregulation contributed to the current crisis that is crippling the global economy, although both are just a small slice of the big pie.

The ultimate cause of the crisis seems to lie in the general economic culture and ways of thinking: the optimistic outlook that encouraged people to borrow heavily, to buy homes they cannot afford, to allow themselves to get deeply in debt and the positive perspective that

encouraged various institutions to disregard any possibility that anything can go wrong. While it is very hard to adjust people's thinking, policy makers should confront the situation with a modern psychological/behavioural finance theory and should try to restore confidence in people to have sense to move forward to a new and better world. Building an economic system based on bailouts is not the solution because it creates moral hazard; institutions will not learn from their mistakes if the government always has their back. So the question is, should these institutions be left alone and allowed to play out? Although the free market theory would advocate such a response since failures are a common feature of laissez-faire economies, but it would lead to injustice that people would resent. Policymakers have to be generous and sympathetic in recognizing the complexity of the problem rather than dealing with it in a harsh or hard-handed manner, and any response should be based on social justice and solidarity. Many mortgages were issued where experts knew would pose a problem, but there was no financial incentive to warn people. Failed information transmission mechanism led many to assume unprecedented loans in the false belief that they could afford them. What people need is disinterested advice and an improved information infrastructure to help them make good and sound decisions. Recessions are costly and painful, but they spur economies to take action, to seek new opportunities, and to innovate in adventuresome plans. Policymakers need to come up with a bigger and newer "New Deal" that is more enlightened in connection with modern financial theory to smooth over this crisis and to protect people. Financial institutions are not an end in themselves; they are a means to economic growth and prosperity. Professor Joseph Stiglitz, a Noble Laureate and Professor at Columbia University, explained that the underlying doctrine of the current system is flawed and said that this was the root

cause of the problem. "What is good for Wall Street is not necessarily good for all", he said, and added that "trickle-down economy" had been consistently rejected as a means to provide prosperity for all. There is a need for safeguards to help prevent bank failures and to minimize taxpayers' involvement in bailing out insolvent banks: improved private-sector safety net, higher risk-based premiums to cover losses, higher loan-to-value ratios in real estate lending, lower maximum lending limits to any one customer, clearing of bad assets from banks' balance sheets. Federal involvement should not be in the form of guaranteeing failing companies, but in the form of uniform and safer investment guidelines that ensure the sound management of risks and the elimination of speculative ventures while addressing issues involving solvency.

We live in a globalized world which is interconnected in many ways; in trade, finance and culture. There should be a commitment from the international community to create institutions aimed at enhancing the stability and equity of the global financial system. The institutional foundations of the global financial system should be restructured in a way to create conditions for greater prosperity throughout the deeply integrated world economy. Ultimately, what people really need are better bankers and better executives who understand their businesses, can improve investment performance without taking unnecessary risks, can trim waste, improve productivity, service and image, and are actively engaged in planning and more. But that may be a case for another essay.

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