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## Banking on Governance: Markets and Management in the post-Bretton Woods Period

### **Abstract:**

Banking occupies a rather unique space in corporate governance literature. Historically and in some corporate governance systems today, banks serve as active intermediaries, resolving conflicts among shareholders, managers and other stakeholders. In some systems, the German for example, they even replaced direct government regulation in overseeing companies and markets. Although most banks are private, with the usual corporate government issues – shareholders rights, incentive schemes, board responsibilities and constitution, reporting and stock exchange requirements – many today are completely or partially in government hands. Moreover, much of their governance is in the form of national (in the United States state also), central bank, industry association, and supranational regulatory bodies. As part of the fallout from our recent financial crisis, these collective mechanisms have come under particularly harsh criticism. Abuses in pay and moral hazard issues, for example, are often seen as convincing evidence of a complete breakdown in bank governance. This paper deals with the changes in U.S. and British bank governance from 1970 to 2000. Inspired by changes in financial markets and theory – and buttressed by technological and management changes – these two countries drifted away from national oversight without any convincing supranational or private replacement, a transition that has been less dramatic in most other countries but that has, nonetheless, set the pace for changes in bank governance in most major markets.

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"Not everything that counts can be counted, and not everything that can be counted counts."

Sign hanging in Einstein's office at Princeton

### *Introduction*

Banking occupies a rather unique space in corporate governance literature. Historically and in some corporate governance systems today, banks serve as active intermediaries, resolving conflicts among shareholders, managers and other stakeholders. In some systems, the German for example, they even replaced direct government regulation in overseeing companies and markets. Although most banks are private, with the usual corporate government issues – shareholders rights, incentive schemes, board responsibilities and constitution, and reporting and stock exchange requirements – many today are completely or partially in government hands. Moreover, much of their governance is in the form of national (in the United States state also), central bank, industry association, and supranational regulatory bodies.

As part of the fallout from our recent financial crisis, these collective mechanisms have come under particularly harsh criticism. Abuses in pay and moral hazard issues, for example, are often seen as convincing evidence of a complete breakdown in bank governance. The phrase ‘too big to fail’ has become a commonplace part of our language, but few who use it recognize its full import to our financial system. For this, a more thorough historical overview of changes in banking is necessary. Whereas prior to 1914 even the largest banks in the world controlled assets that represented a tiny fraction of the Gross Domestic Product of the countries in which they were domiciled, today many are large multiples of even large economies like Germany or England. Few large banks before World War I had offices outside of the countries in which they were domiciled, in London, or in colonies, today the great banks maintain offices in all the large developed countries, developing ones, and in offshore tax havens. Regulation, technology, and their international network not only allow them to move money around among countries almost at will, but also to trade huge quantities exotic financial instruments for which there is no public market control or pricing mechanism.<sup>1</sup> We might alter the phrase to read, “too complicated to fail.”

Despite abusive lending practices and recent near meltdown, *that* banking system increased liquidity and reduced transactions costs with many beneficial effects few countries want to give up. To be sure, banks are not the only institutions whose governance practices

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<sup>1</sup> Harold James and Christopher Kobrak, “From International to Transnational Finance: The New Face of Global Capital Markets,” Working Paper, July 2010.

have come under closer scrutiny. Rating agencies, accounting firms, and government regulators as well as quasi-government institutions such as Fannie Mae and Freddie Mac have taken some well-deserved heat. In any case, the size, importance and complexity of the banking system have created a governance nightmare, for which it is fair to say no consensus exists about any quick or long-term fix.

This paper will deal with the changes in U.S. and British bank governance from 1970 to 2000. Inspired by changes in financial markets and theory – and buttressed by technological and management changes – these two countries drifted away from national oversight without any convincing supranational or private replacement, a transition that has been less dramatic in most other countries but that has, nonetheless, set the pace for changes in bank governance in most major markets. The paper will present evidence that British desire to reestablish London as a financial center and American zeal to prevent institutions and individuals from gaining abnormal rents from proprietary knowledge have molded our current financial architecture. It stresses that both countries’ regulators failed to address major changes in international banking, many of which they themselves helped create. It is a complicated story of intertwined developments in regulation, technology and financial theory with a dash of path dependency thrown in.

### *Banks’ Historic Role as Gatekeepers*

In a world not so long ago and not so far away, banks were looked at as essential guardians of investor and public trust. To be sure, they came under heavy fire, but no national system felt able to control companies without their involvement. Before World War I, in Germany and the United States, banks served a wide range of financial roles, far wider than today. In both countries, they not only supplied short- and long-term credit, they acted as nascent rating agencies, underwriters, agents for international transactions, as well as providing accounting and other active corporate governance services. Despite American progressive concerns about their power, investors, especially foreign ones, took comfort from American banks’ close relationships with their clients.<sup>2</sup> In Germany, money-centered banks exchanged a privileged position on capital markets for taking responsibility for their clients’ paper. Part of corporate reform in Germany during the 19<sup>th</sup> century was to encourage bank participation in corporate supervisory boards to replace the guiding hand of the state. Even in the United Kingdom, which relied on a system of transparency and oversight by the Bank of England to

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<sup>2</sup> Jeff Fear and Christopher Kobrak, “Banks on Board: Banks in German and American Corporate Governance, 1870-1914,” *Business History Review*, Special Issue, Winter 2010.

control banks and companies, banks had a fiduciary responsibility to their clients and the public. Indeed some banks, mostly private family ones, played a key role in international capital flows and cross-border corporate governance.<sup>3</sup>

At the turn of the 19<sup>th</sup> century, Britain had by far the world's strongest financial system. But British banking and financial system had evolved very differently from the American and German. By the early part of the 19<sup>th</sup> century, London was the center of international finance and it had already enjoyed 100 years of central bank financial oversight. During the heyday of liberalism, the major private and public financial institutions – both those considered banks by the strict British definition and those like the Rothschild's that were more private equity partnerships – made their home or at least had a significant presence there. By the end of the 19<sup>th</sup> century, Britain had many well-capitalized joint-stock banks with large deposit bases with branches all over the country and in the colonies, performing a wide range of banking services. Although by the end of the 19<sup>th</sup> century the Bank of England had difficulty discharging some of its domestic and international charges, since the 1840s the United Kingdom had enjoyed over sixty years of successful experience of bank oversight through emphasis on bank transparency and a good deal of self-regulation among the big private and public banks.<sup>4</sup> The maturity of companies, the ease of security issuance, extensive capital market regulation and British macro-economic stability removed many of the reasons for active bank governance prevalent in other countries. By many measures its equity market was the largest and the divorce of ownership from management far greater than in most other countries, requiring relatively well developed capital market regulation and corporate governance rules to attract international share issuances and to protect especially minority and foreign shareholders.<sup>5</sup> Despite some nationalist resentments its accounting system, for example, was the envy of the developed world.<sup>6</sup>

In some sense, despite some national resentment, American regulators sought to adopt some of the strengths of the British system. At the very least, for good or ill, and without many of the institutional supports that existed in the United Kingdom, New Deal regulators

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<sup>3</sup> Christopher Kobrak, "Family Finance: Value Creation and the Democratization of Cross-border Governance," *Enterprise and Society*, March 2009 and Niall Ferguson, *High Financier: The Lives and Times of Siegmund Warburg* (London: Allen Lane, 2010).

<sup>4</sup> Youssef Cassis, *Capitals of Capital: A History of International Financial Centres, 1780-2005* (Cambridge: Cambridge University Press, 2006), pp. 22-24 and 43-112.

<sup>5</sup> Leslie Hannah, "The 'Divorce' of Ownership from Control 1900 Onwards: Re-calibrating Imagined Global Trends," *Business History*, Vol. 49, No. 4., July 2007, pp. 404-438.

<sup>6</sup> Paul J. Miranti, Jr., *Accountancy Comes of Age: The Development of an American Profession, 1886-1940* (Chapel Hill: University of North Carolina Press, 1990), pp. 29-32 and Jeff Fear and Christopher Kobrak, "Different Paths: Accounting for Corporate Governance in America and Germany," *Business History Review*, 80, Spring 2006, pp. 1-48.

believed that American as well as other nations' financial systems – as evidence by post-war Germany – would lose little and gain much by ridding themselves of activist, powerful bank intermediaries with corporations.<sup>7</sup> By the end of the 20<sup>th</sup> century, in the United States banks had lost this larger gatekeeper role. Regulators and investors had stopped turning to them for special governance expertise, and the control of banks had largely passed from active oversight to numerical tests of banking prudence.

### *Offshore and Foreign Banking*

Probably the most dramatic change to the world banking system in the second half of the 20<sup>th</sup> century, however, was the increase in bank foreign direct investment and the huge increase of offshore (Euro) banking. The decision in the early 1950s by many national regulators to allow deposits in currencies other than their own to go substantially unregulated opened a small path which, following the fall of Bretton Woods, turned into a four lane highway. After World War II, the weakness of the British economy and the instability of the British pound, which had been the main currency for denominating international transactions, threatened London as a financial center. London bankers looked to lending dollars as a solution but to do this they needed dollar deposits. Although small amounts of dollar deposits had existed before, the banks' new interest in having dollar deposits coincided with an upsurge in demand for keeping dollars outside of the United States. British and other bank regulators turned a blind eye to the practice, which seemed at worst a harmless convenience and at best a useful way of ameliorating the dollar shortage outside of the United States. By the 1970s, for many governments, the existence of Euro-funding was a welcome addition to their own domestic financing needs.<sup>8</sup>

By the time many of the original conditions that spurred the growth of offshore accounts had disappeared – such as U.S. restrictions and taxes on capital flows as well as the dramatic increase in Petrodollars – the offshore market had come to dominate international finance not just because of its size but also because of its ability to innovate. It served as a hotbed of new financing ideas as well as a competitive pressure driving down transaction costs. Its self-regulating practices were dominated by large corporations and banks, which suited companies' hunger for hedging methods and flexible financing in the post-Bretton

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<sup>7</sup> For a discussion of American efforts to dislodge German banks from their powerful governance role after World War II see Christopher Kobrak, *Banking on Global Markets: Deutsche Bank and the United States, 1870 to the Present* (Cambridge: Cambridge University Press, 2008), pp. 248-272.

<sup>8</sup> Harold James, "Central Banks and the Process of Financial Internationalization: A Secular View," in Stefano Battilossi and Youssef Cassis, eds. *European Banks and the American Challenge: Competition and Cooperation in International Banking under Bretton Woods* (Oxford: Oxford University Press, 2002), p. 209.

Woods period. In the topsy-turvy financial world of the 1970s banks and their customers demanded new instruments to combat the huge increase in foreign exchange, interest rate and other risks. It facilitated easy short-term, friction less exchanges among banks and their clients.

In the decade before the collapse of Bretton Woods, the Euro-currency market increased fifteen-fold<sup>9</sup> but its most dramatic growth was during the 1970s. In just one five year period, Euro deposits grew tenfold, slowing down in the 1980s to 100% increases every five years, albeit from a higher base. Although the dollar is still the main currency, nearly all major currencies are involved in offshore banking. Its centers have spread from London, to New York, Luxemburg, many Asian cities, and several Caribbean Islands.<sup>10</sup> Today, much of international banking is short-term inter-bank and, in the last decade intra-bank activity, largely outside government control via the exchange of Eurocurrency. Mostly based in London and New York, from 1982 to 2004 Euro-currency bank loans grew tenfold to nearly \$10 trillion, dwarfing international bonds by a factor of six, while foreign exchange daily transaction climbed from \$60 billion per day to an almost unimaginable \$1.9 trillion.<sup>11</sup>

The development of offshore banking facilities has paralleled the increase in foreign banking investment. Large banks were in part drawn to the financial freedom of Eurocurrency centers and in part they had to follow their clients who demanded services there. From 1960 to 1975, U.S. banks for example, increased their foreign branches six-fold.<sup>12</sup> From 1975 to 1999, the assets of foreign banks doing business in the United went from less than \$50 billion to approximately \$1.2 trillion, nearly 20% of all U.S. bank assets. By 1996, U.S. bank foreign assets reached \$1.1 trillion.<sup>13</sup> The story for non-U.S. banks was similar, but it started a little later. Whereas U.S. banks in 1960 already operated 29 foreign subsidiaries, the banks of United Kingdom, France and West Germany collectively had 8. In the twenty years that followed, U.K. foreign banking subsidiaries climbed from 8 to 68, German from zero to 52, and French from zero to 58.<sup>14</sup> As will be discussed, much of our current financial architecture, our instruments and methods of trading them owe their

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<sup>9</sup> Stefano Battilossi, "Introduction: International Banking and the American Challenge in Historical Perspective," in Stefano Battilossi and Youssef Cassis, eds. *European Banks and the American Challenge: Competition and Cooperation in International Banking under Bretton Woods* (Oxford: Oxford University Press, 2002), p. 15. As early as 1973, Eurodollars had reached a staggering \$132 billion,

<sup>10</sup> Meir Kohn, *Financial Institutions and Markets* (Singapore: McGraw-Hill, 1994), pp. 272-278.

<sup>11</sup> Cassis, *Capitals of Capital*, p. 256.

<sup>12</sup> Jane E. Hughes and Scott B. MacDonald, *International Banking: Text and Cases* (Boston: Addison Wesley, 2002), p.27

<sup>13</sup> Hughes and MacDonald, pp. 95-96.

<sup>14</sup> Stefano Battilossi, "Introduction: International Banking and the American Challenge in Historical Perspective," p. 21.

existence to the development of the offshore market and the multinational presence of major banks.

### *British Regulation Since 1970*

With the establishment of the Bank of England in 1694, Britain can boast a long history of bank regulation in which the functions of monetary control and bank regulation, unlike many other countries, were combined in one institution. Although there was no specific banking law until the 1970s, the United Kingdom enjoyed a great deal of success in engendering prudential banking in that country, and indeed in much of the rest of the world.<sup>15</sup> The 1979 Banking Act (amended in 1987) had many provisions, including a more rigorous classification of financial institutions, the introduction of deposit insurance and the extension of Bank of England supervision for institutions receiving insurance, but it owed a lot to added complexities in the financial system and competition of banking, introduced by the large number of foreign banks, located in London to take advantage of the city as a center of Euro-financing. With American banks especially pursuing a very aggressive growth strategy in the wholesale London market (Euro-market), British banks were particularly exposed to the new and intense competition. They were compelled to reconsider strategies, organizational structures and corporate cultures. Like their American counterparts, they explored new sources of external liability management such as commercial paper and various hedging instruments that helped make oversight more complicated. Competition for funding **and** clients transformed the once staid banking sector.<sup>16</sup> Until the early 1970s, British banks labored under regulatory constraints that hampered them in developing the Eurocurrency sector. They were losing market share in their own backyard. By the mid 1970s, market changes and deregulation, however, allowed many U.K. large banks away from domestic business towards the more lucrative and dynamic international banking facilities.<sup>17</sup> The growth in banking activity in general was quite remarkable. From 1970 to 1974 the deposits

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<sup>15</sup> Heffernan, pp. 220-232.

<sup>16</sup> Stefano Battilossi, "Banking with Multinationals: British Clearing Banks and the Euromarkets' Challenge, 1958-1976, in Stefano Battilossi and Youssef Cassis, eds. *European Banks and the American Challenge: Competition and Cooperation in International Banking under Bretton Woods* (Oxford: Oxford University Press, 2002), pp. 103-134.

<sup>17</sup> Battilossi, "Banking with Multinationals: British Clearing Banks and the Euromarkets' Challenge, 1958-1976, pp. 112-118. The major piece of deregulation was the Competition and Credit Control decision of 1971, which lifted all major constraints on parent banks.

of American banks in London tripled and those of British clearing banks increased by a factor of 20.<sup>18</sup>

Britain's prudential regulation was part of a series of financial reforms to adapt to the new financial world order including but not limited to stock exchange reforms and both the Financial Services Act [1986] and the Building Societies Act [1986]. They were designed to ensure financial stability and protect investors while avoiding blocking new entries and competition coming into the system.<sup>19</sup> The whole banking system relied on a good deal of self-regulation. The provisions of the above Acts must be seen against the turbulence of capital markets during the 1970s and early 1980s, which included upswings in inflation rates, asset pricing fluctuations, foreign exchange liberalization and volatility as well as threats of sovereign risk defaults. While the Financial Services Act [1986] extended deposit protection and other provisions to foreign banks they remained under the regulatory supervision of their home country authorities.

At the heart of the reforms both in England and the United States was a quantitative approach to evaluating the risks of bank balance sheets, an approach that was later extended to other nations via the Bank of International Settlements.<sup>20</sup> Given financial regulators' earlier abdication of responsibility for many banking matters, it may have been the only feasible approach. In many senses it imposed a system with an aura of mathematical precision, but one that in reality still required a great deal of judgement and whose application might be highly influenced by a cozy set of relationships between regulators and their charges.

British authorities relied on leverage and asset ratios. Its leverage ratio was formulated as bank deposits plus external liabilities divided by the bank's capital plus reserves. Capital consisted of share capital, loan capital, minority interest plus reserves and general provisions less investments in subsidiaries, goodwill, and fixed assets (equipment, premises, and other fixed assets). In other words, it was designed to determine how much of the bank's banking assets were financed by liabilities to third-parties. Ostensibly, the lower the leverage ratio, the lower the risk. From the beginning regulators recognized that profit-maximizing institutions would be tempted to push up the leverage ratio, adding profits by

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<sup>18</sup> Stefano Battilossi, "Banking with Multinationals: British Clearing Banks and the Euromarkets' Challenge, 1958-1976, p. 118.

<sup>19</sup> Heffernan, pp. 220-232.

<sup>20</sup> Heffernan, pp. 220-232.



lending more from a higher deposit base but increasing their risks and the risk to society, a classic example of private versus social good.<sup>21</sup>

Regulators also recognized that the appropriate leverage ratio of any bank depended on the nature of its assets and a relatively large range of leverage ratios was acceptable. Determining individual leverage ratios required extensive meetings between the bank concerned and the Bank of England. This consensus approach to determining the appropriate level of debt depended also on there being a limited number of banks to oversee, the number and quality of regulators, and the availability of quality accounting information, points that will be addressed later.

In 1980 to help evaluate the riskiness of assets, another ratio was introduced, a forerunner of the Basel ratio (1988) which will be discussed later. Weights were assigned in accordance with the perceived risk associated with the assets, 0%, 10%, 20%, 50% and 100%. The higher the weighting and risk, the greater the amount of capital banks should maintain. Under the Basel Capital Adequacy Agreement, which took as its starting point U.K. and U.S. approaches to bank capital adequacy, a bank's capital was compared to its risk adjusted capital. A *stricter notion* or at least a dichotomy between Tier One and Tier Two, of capital was applied. Although countries had some discretion in defining Tier One and Tier Two capital, the Basel agreement applied to virtually all developed countries and required that banks maintain a minimum of 8% and 4% asset risk ratio (that is, \$8 in overall capital, and \$4 in core capital for every \$100 in risk weighted assets).<sup>22</sup>

### *U.S. Banking Regulation*

At the end of the 20<sup>th</sup> century, U.S. banking regulation was a fractional affair with states and several federal agencies, including the Comptroller of the Currency, Federal Deposit Insurance Corporation (FDIC), Federal Reserve Board (Fed) taking on various roles. Like other countries, American banking was also very influenced by the influx as well as the outflow of foreign investment in the last quarter of the 20<sup>th</sup> century. The history of its approach to banking differed greatly from that of England's though. Its suspicion of centralized power, strong federalist system and populist traditions had produced a myriad of geographic and business restrictions. But it shared the quantitative approach to evaluating the risk of bank assets and liabilities. In addition, during the last three decades of the 20<sup>th</sup> century, the United States witnessed the unwinding of two decade-long pillars of the U.S.

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<sup>21</sup> Heffernan, pp. 220-232.

<sup>22</sup> Heffernan, pp. 220-232.

banking system, limits on national banking and the division between commercial and investment banking.

The impetus for unwinding New Deal and earlier restrictions on banks came to a large extent from a growing recognition that U.S. banks were losing their competitive edge in the United States and in the rest of the world to foreign banks capable of performing a wider range of services over a larger geographic area. As Dick Sylla has pointed out, what appeared as an attack of American banks in Europe was more a flight from American regulation. In many respects during the quarter of a century following World War II American bankers had an enviable position. They bolstered their natural dollar-based advantage with managerial and technological innovation, but their ability to expand in the huge American market was hamstrung by regulatory limits. Foreign expansion was a welcome escape from draconian restrictions on the product and geographical growth of American banks.<sup>23</sup>

New Deal reforms had made American banking safer but rather stodgy. Although removing limits on the combination of commercial investment banking was an important change, it was not by any means the only pillar of American banking that came to an end after 1970. Long before the Glass-Steagall Act (1933), American banks had various restrictions on branching, especially interstate branching. The McFadden Act (1927) actually permitted branching for national banks but reinforced state powers to regulate them. During the 1950s and 1960s several federal laws increased those state powers, leaving a patchwork, fragmented banking system that excluded money-centered banks from developing a national retail network.<sup>24</sup> The unwinding of the Glass-Steagall's separation of commercial and investment banking, and other limits on U.S. banking proceeded over many decades and as early as the 1950's banks formed holding companies to avoid interstate and other restrictions on their activities. Increased foreign banking investment in the United States as well as U.S. desire to establish a level playing field for their investment in foreign countries contributed to the International Banking Act of 1978, which put foreign and American banks on a level playing field, but required reciprocity from any country whose banks sought permission to enter the United States. The Federal Reserve's long-term policy of allowing commercial bank subsidiaries to underwrite and trade many securities as long as these activities did not account for more than 10% of the bank's overall revenues was upheld by the Supreme Court in 1988. By the 1980s too, most states had already passed or were about to pass legislation removing

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<sup>23</sup> Richard Sylla, "United States Bank and Europe: Strategy and Attitudes," in Stefano Battilossi and Youssef Cassis, eds. *European Banks and the American Challenge: Competition and Cooperation in International Banking under Bretton Woods* (Oxford: Oxford University Press, 2002), p. 53.

<sup>24</sup> Heffernan, pp. 240-241.

state restrictions on interstate banking. Federal restrictions on national banks interstate holding were effectively eliminated by the 1994 Riegle-Neal Interstate Banking and Branching Efficiency Act. The Gramm-Leach-Bliley Act (also known as the Financial Services Modernization Act of 1999) opened up the market among banking companies, securities companies and insurance companies, by permitting commercial banks, investment banks, securities firms, and insurance companies to consolidate formally.

By the end of the 1990s, then, U.S. restrictions on combining investment with commercial banking were effectively dead. For many years, the existence of Eurocurrency accounts and their foreign subsidiaries had allowed the banks to circumvent domestic constraints. The Fed regulates the international banking activities of American banks and in an attempt to bring foreign U.S. banking business back to America in the 1970s it began to allow U.S. banks to accept foreign deposits and make foreign loans without being subject to U.S. reserve requirements or interest limits. This had very little effect and left much of cross-border banking outside of the purview of the Fed. Although American banks entry into multinational and Eurocurrency banking did not have the same origin as British banks, it too was derived largely from weakness rather than strength. American banks brought many advantages to Europe, including a focus on investment banking services and greater access to U.S. dollar financing. Until very recently at least American and British financial markets were considered the best in the world, in which the tradeoffs between liquidity, safety, and return were enticing for foreign investors.<sup>25</sup> It may seem paradoxical to the reader, but despite the recent financial crisis confidence in the dynamism and efficiency of the American banking system remains relatively high. The actions of the U.S. federal government combined with the resilience of many banks have contributed to high demand for U.S. government and private securities, *prima facie* evidence that American markets are still seen as safe havens for investors.

The depth of those markets is in large part produced by innovation and the existence of private funds for long-term savings. Many regulatory changes allowed American and British banks to trade in the lucrative ends of finance. The United States and the United Kingdom led the way, for example, in the creation of derivative instruments and markets, and turning a blind eye to banks trading derivatives. By December 2000, the U.S. Republican Congress and President Clinton had signed a bi-partisan bill that freed banks to trade in

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<sup>25</sup> Richard Sylla, "Reversing Financial Reversals: Government and the Financial System since 1789," in Price Fishback, et al, *Government and the American Economy: A New History* (Chicago: University of Chicago Press, 2007), pp. 115-147.

derivative instruments outside the scrutiny of normal capital market regulators. The Commodity Futures Modernization Act (2000) took a huge portion of derivative trading outside the Commodities Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC). The Act was passed after a decade-long debate about how to regulate derivatives and had been highly promoted by Treasury Secretary Robert Rubin, Alan Greenspan and other members of the “Dream Economic Team”. Its supporters had based their views on several beliefs: that the huge increase in over-the-counter (OTC) derivatives would continue; existence OTC products and trading formed necessary linkages for users of derivatives for whom standardized contracts were insufficient; OTC derivative trading gave U.S. banks a huge competitive advantage, and most importantly, that self-regulation among banks provided adequate control and had blurred the distinction between organized and private markets.<sup>26</sup> While many of the promoters came to regret their support and many blamed the Bush White House for reducing financial regulatory budgets, how the latest reforms will affect OTC trading is not yet clear.

By 2000, for many market and regulatory reasons, the United States not only led the world in large, pure investment banks, but it had also established a group of universal banks with a national and international network of retail and wholesale clients. Moreover, U.S. and U.K. financial leadership was bolstered in part by the strength of non-banking financial institutions. New Deal financial reform had included the encouragement of private savings outside of banking institutions. In a series of Acts, pension and mutual funds received favourable tax and other treatment, in part in exchange for adopting diversification as the primary means for insuring prudent investment. While they were given a wide leeway in what to invest, they were strictly limited to owning small portions of the equity of companies and in how much of their own capital could go into one company.<sup>27</sup> Under these rules, active management of companies was discouraged, but it was not until several decades after their creation that the influx of individual and corporate funds made them sizeable players in financial markets. When pension and mutual funds came into own, they reinforced the growing tendency to rely on diversification and mathematical modelling as a governance tool, as discussed later. In 2005, mutual insurance and pension assets accounted for 250% of U.S. Gross Domestic Product. Pension funds alone accounted for 40% of the total assets,

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<sup>26</sup> Dean Kloner, “The Commodity Futures Modernization Act of 2000,” *Securities Regulation Law Journal*, July 2001, pp.54-65. The name of the bill is a little bit of a misnomer. It actually deals with a wide range of derivative instruments, not just futures.

<sup>27</sup> Mark Roe, *Strong Managers, Weak Shareholders* (Princeton: Princeton University Press, 1994).

approximately \$5.0 trillion. In the United Kingdom the percentages were lower but well above those in Germany and in the world as a whole.<sup>28</sup>

### *Explosion of OTC Financial Instruments*

Statistical and anecdotal evidence seems to provide overwhelming case for the view that there has been a huge growth in, opportunities for gain, and relative power of international finance. Even excluding more exotic transactions and taking into consideration that many transactions have razor-thin margins, the sheer volume of financial transaction and size of markets are impressive. From 1980 to 2005 world debt and equity holdings climbed from \$3 trillion each to \$35 and \$44 trillion respectively. Both government debt and bank deposits grew at similar paces.<sup>29</sup> By 2007 the financial sector accounted for 7.7% of U.S. Gross Domestic Product (GDP), nearly three and half times what it had been, percentage-wise, in 1947. In Britain the percentage of GDP was even higher.<sup>30</sup> Although much of the growth came in markets and institutions outside of banks, changes in regulation allowed banks to participate in many ways in other financial growth areas. From ancient times men of finance have occupied important social roles for good or ill, and over the past 150 years many have been demonised or revered, sometimes the same individuals have been characterized as both at different times or by different people. But Tom Wolffs’ “Masters of the Universe” and James Carville’s tongue in cheek wish to come back in his next life as a bond dealer both underscore our own era’s widespread public perception of a new financial elite wielding immense power and standing above political scrutiny.

One of the most dramatic changes in finance over the last 40 years has been the immense growth in the complex area of derivative instruments, many of which are not bought or sold on public exchanges and are only lightly regulated. A derivative instrument is a financial product whose value is based on some other instrument. There are many kinds: futures, options, swaps, and forwards. They have existed for a long time but financial derivatives, as opposed to commodity ones, came into prominence as an antidote to the financial volatility following the demise of Bretton Woods. Many recent studies explore the growth of the finance sector in general but much of this growth, and by far the most dramatic, has been in the area of derivative instruments. Although the value of global financial assets (bank deposits, government debt, private debt, and equities) has risen from \$13 trillion to

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<sup>28</sup> Ismail Erturk, et al., *Financialization at Work* (London: Routledge, 2008), p. 5.

<sup>29</sup> Erturk, p. 7.

<sup>30</sup> Naill, Ferguson , *The Ascent of Money : A Financial History of the World* (New York: Penguin, 2008), p. 5.

roughly \$140 trillion in 2005, by 2006 the notional value of derivative instruments was nearly four times greater than all these other instruments combined. Of those, over 80% were over-the-counter, that is, traded in private, relatively unregulated, mostly bank transactions, not on organized markets. Commodities and foreign exchange transactions had dominated derivative trading but now interest rate contracts have by far the largest share. The greatest growth, however, occurred in a relatively recent entry, the now infamous Credit Default Swaps (CDS). CDS have been instrumental in the growth of securitization, the creation of public financial instruments supported by assets such as mortgages, which have played such a great role in cross-border finance and in the recent crisis. In the decade before 2006, these instruments increased fivefold in the United States and fifteen-fold in Europe.<sup>31</sup> The increase in bank-based derivative and securitized instruments has been part and parcel of a shift in bank business away from straight lending to services and trading. From 1984 to 2003 the non-interest income of credit institutions as a share of total income in the United Kingdom and the United States went from 36% to 46% and 25% to 45% respectively. In some countries, the increase was even more dramatic.<sup>32</sup>

To a large extent, much of this explosion in new, complex financial securities owed its existence, not to private banking initiatives, but rather to government programs in the United Kingdom and, to an even greater extent, in the United States. Government actions first helped create the need and then provided the regulatory framework that permitted the development of OTC derivatives. The story is a wonderful illustration of the morphology of government programs and their connection to financial markets. Bankers clearly profited from, but were essentially enablers in long-standing political initiatives, the origins of which were very noble views of social organization but whose later manifestations were perhaps better characterized as attempts by politicians to buy off their constituencies and to cover up political and economic failures. In order to understand this process and its effect on financial markets, I will recount the history of American attempts to further private home purchases, one of many government initiatives that have helped transform finance.

Owning a home was probably part of the American Dream even before there was a United States. The idea that home ownership encourages good citizenship is long-standing and non-partisan part of American society. State involvement predated the 1930s, but the Great Depression and ensuing New Deal revolutionized the purchasing process. Until then, debt financing to buy a house was variable rate and short-term, through a local financial

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<sup>31</sup> Erturk, pp. 7-9.

<sup>32</sup> Erturk, p. 11.

institution, which relied on local deposits, and contingent on having a large deposit (around 50% of the purchase price). With the collapse of the housing market and general financial distress, two institutions were established to intervene, the Home Owner's Loan Corporation (HOLC), for buying and restructuring mortgages in default into 20-year facilities, and the Federal Housing Administration (FHA), to provide default insurance on new mortgages, effectively shifting all but interest rate risk from thrift institutions. By 1936, HOLC was wound down and in some sense replaced by the Federal National Mortgage Association (FNMA, later Fannie Mae) to purchase FHA-backed mortgages from thrift institutions with funds provided by long-term bond investors such as insurance companies and pension funds.<sup>33</sup>

By the 1960s, several factors contributed to the expansion of the program by direct and indirect government intervention. The Government National Mortgage Association (GNMA or Ginnie Mae) was established to continue the work of FNMA and FNMA was privatized for the purpose of financing mortgages by issuing bonds (securitized claims) to the public. Along with a new organization, which too, despite its name, was private, Federal Home Loan Mortgage Corporation (Freddie Mac), the federal government could encourage home purchases and keep the struggling thrift institutions alive by creating and then marketing bonds secured by bundles of mortgages through "off-balance sheet" institutions, ostensibly funded by the private sector.<sup>34</sup>

The problem was that these efforts to salvage the thrifts and keep mortgage lending up had huge but hidden costs to taxpayers. Fannie and Freddie were government-sponsored institutions, with private shareholders to whom management was responsible but whose profitability was dependent on government largess, which included exemptions from state and local taxes, cheap financing from the Treasury, and most importantly an implicit federal government guarantee. As long as the mortgages they packaged were relatively safe, there was little risk. They could borrow directly from the market or from the government and invest in mortgages at significantly higher rates.<sup>35</sup>

But their close relationship with the government was a source of economic strength and political vulnerability. With incomes stagnating and even declining in the United States during the 1990s, Fannie and Freddie became convenient vehicles for Congress to improve the lot of its constituency without entailing new and immediate government expenditures. At first under political pressure and later more willingly, Fannie and Freddie took on more risk

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<sup>33</sup> Raghuram G. Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy* (Princeton: Princeton University Press, 2010), pp. 31-45.

<sup>34</sup> Rajan, pp. 31-45.

<sup>35</sup> Rajan, pp. 31-45.

with low-income housing, a decision that worked out fine as long as the economy was strong. At the end of the 20th and beginning of the 21st, both government and the agencies looked for elaborate strategies for expanding homeownership enjoyed kudos for increasing affordable housing; neither showed much interest in disclosing the risk. In 2000, the Clinton administration, which had already sponsored many home-financing initiatives, dropped the minimum down payments to 3% for FHA guaranteed loans, increased the size of loans it would guarantee, and halved what it charged for the guarantees. By 2004, under the Bush administration's equally aggressive pressuring even in the face of growing concerns, low-income lending made up 56% of Fannie's and Freddie's assets. Everyone seemed to gain: the banks with initiation fees; consumers with better housing whose value seemed to insure sizeable annual increases in its owner's net worth, and politicians who found some relief from criticism about lost jobs and income inequality.<sup>36</sup>

By securitizing debt and creating public debt instruments, bankers freed the American consumer credit market from its reliance on local deposits. Investors from many other countries were enticed not only by higher yields, but the comparative safety of these instruments. Not only did they have implicit government guarantees, a host of new derivative instruments helped shed them from risks that they could not control, or at the very least, pick very carefully which risks they wanted to bear. From 1996 to 2006, securitized debt jumped from just under \$700 billion to nearly \$3.2 trillion.<sup>37</sup> To be sure, these amounts included many kinds of securitization, but housing made up a substantial portion and helped drive other kinds of consumer borrowing, which too profited from securitization, by adding to consumer needs and a false sense of confidence in the borrower's ability to repay unsecured debt. The latest stages the surge in home buying and prices became intertwined with other forms of debt formation. In short, by 2008 a huge cross-border debt creation network had been established, in which oversight of the debtor had given way to a system of insurance contracts (derivatives) and “automatic, numeric benchmarks,” ostensibly whose great advantage was easy application at a distance from the real assets from which the securities derived their value.

### *Self-regulation, Financial Theory, and the Basel Committee on Banking Supervision*

A system hybrid of self and external regulation has developed, with both banks adopting many mathematical measures to control their own risk, while investors and

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<sup>36</sup> Rajan, pp. 31-45.

<sup>37</sup> Irturk, p. 9.



regulators have also tended to fall back on similar mathematical modelling that has evolved from modern financial theory. Post-Bretton Woods banking regulation has been based largely on several pillars of modern finance: portfolio theory, the Efficient Market Hypothesis and Options Pricing. Many of the new techniques were highly dependent on extensive computing power but were also inspired by a hundred-year old faith in measurement and the solubility of problems, especially by use of quantitative analysis. Understandably, virtually all of the developments emanated out of the United States.

Long before the turmoil of the post-Bretton Woods period but after **the** American financial reforms of the 1930s, a 25-year old University of Chicago graduate student (later Nobel Prize Laureate), Harry Markowitz, shook up the economics world by asserting that the behavior of a portfolio of assets was different and more important than the behavior of the individual assets alone. Using linear programming he built portfolios that either limited cost (risk) at a given level of output (return), or maximized output at a given level of cost.<sup>38</sup> Much of modern finance, including the Capital Asset Pricing Model (CAPM) and Efficient Market Hypothesis (EMH), builds on his insights and methodology.

Although both the CAPM and the EMH have recently come under greater scrutiny, for much of the past forty years they have been fundamental building blocks of modern finance and U.S. regulation. The CAPM is still widely held as a theoretically sound way of pricing risk, determining the appropriate cost of capital for any firm. It takes as its starting point that the individual risk of any security can be easily diversified away. If it is easy, then markets will not reward investors for taking on unique risk. A company's cost of capital is then based on its individual returns *vary, or co-vary*, with market returns. Although EMH comes in several forms, its core idea is that markets contain the relevant pricing information and therefore obtaining a return higher than an investor's risk-adjusted cost of capital is a question of short-term, individual luck. For regulators and the institutions they oversee, this thinking has profound implications. It encourages dealing with individual items aggregated into categories of type or quality in which mathematical methods can be applied, ideally determined by others. Theory and the ostensible sophistication of bankers provided cover or intellectual justification for faith in self-regulating markets with impersonal, nearly automatic, market corrections and a buyer-beware stance on regulation. For banking, statistical modelling involving not only mean variance but also co-variance calculations and stochastic

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<sup>38</sup> Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York: Wiley and Sons, 1998), pp. 244-266.

calculus form the backbone of methods of quantifying and pricing risk (options theory) as well as building and understanding portfolios (value-at-risk).

Recognizing that much of international banking was now a new form of free banking, private bankers and central bankers took matters into their own hands. This included purely private agreements about how contracts should be structured as well as Central Bank initiatives to better evaluate bank exposures. The Basel Committee on Banking Supervision, established in 1974 by the leading OECD countries to improve their bank supervision collaboration, was specifically designed to address the growing complexity of bank activities brought on by deregulation, internationalisation, market turbulence and financial innovation. Set against the background of increasing risk of contagion from bank failures in one country, its administration is provided by the Bank of International Settlements (BIS) and representatives of member governments. In 1988 the committee tackled the complicated question of creating a common framework for bank capital measurement and setting common minimal guidelines, the so-called Basel Accord. Banks that did international business were expected to keep a capital to risky asset ratio of 8%, but there were no hard penalties for non-compliance. The Accord defined different types of capital and assets, weighted according to their risk. Tier I capital, for example, included common equity and minority interest less goodwill. Most loans were weighted as 100% assets and short-term bank credits as 20%. By the mid-1990s many critics had found that the weightings were too simplistic and creating distortions in international capital markets, such as getting banks out of their traditional lending business into packaging and selling loans. By 1997 leaders of the international banking community were pushing for more detailed supervisory principles, but there was little consensus about the role of capital adequacy. By the end of the century, the BIS and other international banking institutions had gravitated towards greater reliance on rating agencies and Value-at-Risk modelling.<sup>39</sup>

Value-at-Risk (VaR) analysis comes in many forms, is used by banks and their regulators and forms the basis for the stress tests performed by American and European central bankers. Portfolios of derivatives especially are broken up into different risk factors, such as changes in the value of an underlying asset, changes in volatility or timing delays. Based on historical data about how changes in market conditions affect prices, institutions try to predict at given levels of certainty how much they can lose on an individual asset or a whole portfolio of assets, given some adverse event. Although VaR provides its users with

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<sup>39</sup> Hughes and MacDonald, pp. 260-268.

reassuring numbers, it is always based on assumptions and is only as good as the quality of the numbers and their interpretation. These assumptions include: the distribution of price changes, normal or otherwise, price movements are random (follow no discernable pattern, EMH) and the stability of volatility and the interrelationship of volatility of prices over time.<sup>40</sup> Like many aspects of modern economic theory and practice, VaR can be very useful and mathematically elegant. Indeed, the analytical tools themselves have become so intellectually intertwined and integrated in capital markets that in some sense their validity is a quasi *fait accompli*. Nevertheless, they encourage a frame of mind that ignores the degree to which the models themselves operate in a social environment, a hubris that forgets that many of the models' objects and relationships are neither standardized nor unchanging, and that individuals and institutions must be on guard to spot deviations from assumed norms.<sup>41</sup>

### *Hedge Funds*

Much of finance today is conducted by hedge funds, institutions for which there is neither universally accepted definition nor effective regulation. Indeed, the *raison d'être* of hedge funds is to operate without oversight of any kind. Despite their name, hedge funds occupy the high-risk, high-reward end of investing. The name comes from a cautious strategy of trying to make money while avoiding risk, a kind of arbitrage that takes advantage of pricing differences of the same asset in different markets. Today hedge funds for the most part apply various strategies to hedge themselves against unwanted risk, which allows them to focus all their risk-taking on precisely the bets that they want to take. Secrecy is required, since for the strategies to function, no one else can know them. If they were copied, prices would move so as to eliminate the potential gain. They are one of the chief employers of OTC derivative instruments and occupiers of tax havens. Working with banks, which help them design and trade the instruments, they can make big, leveraged bets precisely where they think assets and liabilities are over or undervalued. Working in tax havens multiplies the gains and helps ensure discretion.<sup>42</sup> The growth of hedge funds *understates* their importance to financial markets. In the ten years before 2006, hedge fund assets increased to \$1.5 trillion, more than tenfold.<sup>43</sup> But unlike private equity, which has much less in the way of funds under

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<sup>40</sup> Heffernan, pp. 194-197.

<sup>41</sup> Donald MacKenzie, *An Engine, not a Camera: How Financial Models Shape Markets* (Cambridge, MA.: MIT Press, 2006), pp. 1-35.

<sup>42</sup> Risto Laulajainen, *Financial Geography: A Banker's View* (New York: Routledge, 2003), pp.56-57.

<sup>43</sup> Erturk, p. 12.

management, hedge funds make their money by quickly going in and out of positions, exploiting temporary opportunities for gaining and getting out once the gain is made.

In 1998, the most famous hedge fund, Long-term Capital Management (LTCM) almost brought the world banking system to its knees, an unheeded warning of the crisis that would follow a decade later. LTCM seemed to have all the competitive advantages a hedge fund could want. It was founded by a team that included two Noble Prize Winners, Myron Scholes and Robert Merton who won the award for developing the options' pricing model, and the best traders on Wall Street from the former investment bank Salomon Brothers. Their strategy was to look for misplaced asset values in different markets, in theory a riskless activity. For several years, it was a money machine. By picking up small profits on huge volumes of transactions they earned their investors what seemed like abnormal profits. As Scholes once put it, LTCM was like a vacuum cleaner sucking up nickels all over the world.

Unfortunately, margins narrowed. Markets became more efficient. Others copied their strategies, making market anomalies (securities priced differently in different markets) harder to find. To get the returns expected from their investors, LTCM started making more bets on assets that were not strictly the same; they only seemed historically to have prices that moved in similar patterns, and to increase the size of their bets by leveraging the firm. All this came to a head when the Asian and Russian debt crisis hit, throwing off historical variances and co-variances of instruments. The U.S. Federal Reserve organized a group of banks, which had been lending to LTCM, for an orderly liquidation of its positions. The operation was a great success, leading many banks and regulators to believe that the system had nothing to worry from LTCM-like activities. By 2007 several N.Y. banks had derivative positions many times the size LTCM's had been in 1998. Indeed for many American and European banks providing a trading platform for hedge funds was one of their main strategies. Although most financial practitioners understood how the activities of hedge funds and other *arbitrageurs* could make markets more efficient and liquid, they showed little understanding of how the same activities could destabilize the financial system, especially when conducted off-balance sheet, outside any regulatory oversight, and with dubious reliance on accounting information.

### *Bank Structures, Transactions and the Marked-to-market Rule*

Although banking dependence on the state is nothing new, the added complexity, size, and geographic breadth of banking today have strengthened the need for governmental

support, but without a clear idea of how to exercise better control and by whom.<sup>44</sup> Indeed combined American, British and international regulation has contributed to the size and complexity of many multinational financial institutions and to a large extent to the misuse of accounting information. Accounting regulators, overwhelmed by investor and statutory demands, have tried in vain to institute rules to ensure proper valuation and transparency, where neither is possible. This has resulted in a misuse of accounting information and a dangerous reliance on theoretical valuation to replace real market pricing mechanisms.

During the recent financial crisis, Citigroup was one of the hardest hit institutions. In 2007, its business consisted of five globally managed business segments (Global Consumer; Markets including investment banking, trading, and trust services; Wealth Management; Alternative Investments such as hedge funds and private equity; and Other Corporate Services) spread over 100 countries divided into six regions, virtually the entire world (United States; Mexico; Europe, Middle East and Africa; Japan; Asia without Japan, and Latin America). Approximately 66% of their 370,000 employees were based outside the United States<sup>45</sup> and business outside the United States accounted for over half of total revenues and two-thirds of profits.<sup>46</sup>

According to the bank itself, offering customers the ability to trade with the group in order to satisfy their customers' liquidity needs was a key strategic goal. Not only did the bank provide advice to clients on new derivative instruments, it had to allow them the opportunity to trade them. For many of the derivative products especially, there would be no market if the bank had not provided one. This was especially important for most hedge funds, whose business model was highly dependent upon quickly exploiting asset price anomalies with increasingly refined derivatives for which there was no public market. The bank invested huge resources in creating an internal market, in essence warehousing securities and derivatives to build hedged positions for future sale. As of December 31, 2007 25% of Citigroup's over \$2 trillion in assets were being held for trading, up \$145 billion from the year before, and nearly five times its equity capital. Trading liabilities amounted to nearly \$200 billion. The bank's approximately \$800 billion in investments were drawn from its affiliates all over the world but investment activities were concentrated in the U.S. and U.K. markets.<sup>47</sup> Trading included fixed income, credit products, collateralized debt obligations (CDOs), equities, foreign exchange, and commodities. While the other trading revenues were smaller

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<sup>44</sup> Andrew G. Haldane, "Banking on the State," Working Paper, Chicago, September 2009.

<sup>45</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 2.

<sup>46</sup> Citigroup's 2007 Annual Report on Form 10-K, pp. 20-22.

<sup>47</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 66.

but consistently profitable, credit products lost money in 2005-6, and a huge \$22 billion in 2007.<sup>48</sup>

Citigroup had a variety of different exposures created by its capital market activities. In 2007, its nearly \$40 trillion of derivative contracts (swaps, options, futures and forwards as measured by notional values) were carried, net of offsetting items at \$77 billion in receivables and \$104 in liabilities on its books, positions that left a net payable of \$30 billion in derivatives in accounting terms *but which are by no means offsetting in financial*.<sup>49</sup> Approximately 80% of these contracts were made up of derivative trading positions for the bank's own account, not customers.<sup>50</sup> In addition to the assets belonging to the bank, it had nearly \$60 billion in assets under management for third-party institutions and high-net-worth individuals.<sup>51</sup> More importantly, like many money-centered banks, Citigroup used a variety of Special Purpose Vehicles (SPVs) ostensibly to transfer assets, liabilities and risk from its own balance sheet. In 2007, it was involved in nearly \$800-billion worth of these entities, up 50% from the year before. They were, in a sense, trusts whose liabilities were to be funded by pledged assets from mortgage or credit card businesses, but in whose activities Citibank still shared some liability. Many were offshore and allowed banks to fund many activities and deal in many kinds of transactions without those activities being run through their own balance sheets. For their own activities, the SPVs do a considerable amount of securities trading. As of December 31, 2007, Citigroup estimated its maximum to these entities at \$152 billion.<sup>52</sup>

Accountants and banks have come under increasing pressure to disclose more relevant information about, and to mark many complex assets and liabilities to market or at least fair value. This pressure has resulted in a series of accounting standards – with Statement of Financial Accounting Standards (SFAS) 155, 157, and 159 dealing with hybrid instruments and fair value measures. Citigroup even adopted SFAS-157 and 159, which defined fair value, expanded disclosure requirements and gave alternatives for handling the value of specific instruments at the date of acquisition, on January 1, 2007, earlier than required by the SEC.<sup>53</sup> The accounting standards specify a hierarchy of valuation techniques when prices are

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<sup>48</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 129.

<sup>49</sup> In other words, the bank might have to write down its receivables and write-up its liabilities. There is no indication that the two are related. Moreover, the reader should see that the bank has a problem that is caused by toxic liabilities, not just toxic assets.

<sup>50</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 57.

<sup>51</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 34.

<sup>52</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 161.

<sup>53</sup> Since the banking crisis, U.S. accountants have loosened the rules about marking certain securities to market. The International Financial Reporting Standards (IFRS) called for similar marking to market, but application of

not observable. This hierarchy includes quotes from identical and similar instruments as well as prices derived from valuation techniques using value-driving inputs. The emphasis is on using observable inputs. But the bank admitted that these inputs may not be available, and that during some periods, such as the one we recently lived through, markets may become so illiquid and some key inputs unobservable that make arriving at a fair price nearly impossible.<sup>54</sup> In short, the bank held amounts, roughly equal to its capital base, invested in assets that are largely priced by complex mathematical models rather than by trades in public markets.

The reader of even its very detailed annual report does know how each asset and liability has been valued and how liquid the market for each security is, they were not marked to market but rather marked to model. In the old days, 'Marketable Securities' referred to those securities for which a market price could be easily derived and which the reporting entity could easily sell. Neither is the case as pertains to this class of security.

Business related to its making a market for complex instruments was a huge and volatile part of its business. In 2006, it accounted for approximately one-third of the bank's profits, just over \$7 billion. A year later it recorded a \$5 billion loss, centered in the United States and Europe.<sup>55</sup>

Although the banks invest much in evaluating and managing these risks, the data suggests that the huge size of their positions and illiquidity of markets coupled with huge volatility make the risks connected with their positions in these instruments unobservable. Citigroup and JPMorganChase did stress testing before the U.S. government applied the techniques to judge the capital adequacy of banks, but they did not report the parameters of those tests. Moreover, they both reported the variability of their trading revenues (profits), but not their trading volumes as any public market would. Citigroup, for example, reported net losses in 60 out of 255 trading days, but no indication of what and how much was traded.<sup>56</sup>

In addition, although the office of the Comptroller of the Currency restricted the transfer of dividends and some other payments among national banking and non-banking institutions under U.S. bank control, neither the bank nor government institutions reported

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these rules for EU countries was watered down by the European Parliament in 2007. "Speaking in Tongues," *The Economist*, May 19, 2007, pp. 77-78.

<sup>54</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 11.

<sup>55</sup> Citigroup's 2007 Annual Report on Form 10-K, pp. 19-22.

<sup>56</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 63.

intra-bank international trading.<sup>57</sup> Consolidated accounting masked not only what goes on among domestic entities of the bank but also international ones. Nothing in Citigroup's annual report told the reader to what extent deposits and borrowing from one national jurisdiction funded activities in others.

JPMorganChase seems to have weathered the crisis much better than Citigroup, and was an obvious beneficiary of its rival's discomfiture, but its financial statements resembled Citigroup's in several key respects. As early as 2007, the bank was also performing stress tests on its positions, in line with its recognition that the United States had suffered several crises since 1982.<sup>58</sup> Unlike Citigroup and several other banks, by 2007 JPMorganChase recognized the risks inherent in SIVs and had reduced its exposure to them, but not to sub-prime mortgages, although even its exposure to these assets was less than much of the rest of the sector's.<sup>59</sup> Unlike Citigroup, too, it questioned the reliability of new, complex accounting standards for valuing some assets and liabilities.<sup>60</sup> But its trading activities were extensive. The Treasury and Securities Group, its department for holding, valuing, clearing and providing other services for investors and brokers alone maintained \$180 billion in average balances and did \$10 trillion in daily transactions.<sup>61</sup> The bank had \$1.2 trillion in assets under management and \$1.6 trillion under supervision, amounts not included on its own balance sheet.<sup>62</sup> The investment banking division was also a market-maker for complex derivative instruments.<sup>63</sup> Its many activities, national and international, were designed to be tied together, reinforcing each other. Nearly two-thirds of its investment banking assets was held for trading or in the form of derivative instruments, an amount roughly one-quarter of the bank's total assets and three times stockholder equity.<sup>64</sup>

Many non-American banks also have developed huge foreign networks and trading operations. Some large European banks such as Commerzbank and UBS have paralleled those of the American banks discussed here. Like their American competitors, with somewhat different methods of valuing complex instruments, they not only detail how they come to fair value determinations, they also spend pages of their annual reports detailing the thoroughness of their risk assessment. To varying degrees, they have huge amounts of off-

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<sup>57</sup> Citigroup's 2007 Annual Report on Form 10-K, p. 154.

<sup>58</sup> JPMorganChase 2007 Annual Report, p. 9.

<sup>59</sup> JPMorganChase 2007 Annual Report, p. 10.

<sup>60</sup> JPMorganChase 2007 Annual Report, p. 15.

<sup>61</sup> JPMorganChase 2007 Annual Report, p. 22.

<sup>62</sup> JPMorganChase 2007 Annual Report, p. 23.

<sup>63</sup> JPMorganChase 2007 Annual Report, p. 27.

<sup>64</sup> JPMorganChase 2007 Annual Report, p. 41.



balance sheet securities under management. Some even do “stress testing.”<sup>65</sup> Even the big European banks that fared better structured their operations similarly to their competitors. In 2007 three-quarters of Deutsche Bank euro 2.0 trillion in assets, for example, were in the form of securities held for trading. Approximately 40% of the assets held at fair value were derivative financial instruments and 66% of its nearly 80,000 employees were outside of Germany.<sup>66</sup>

### *Conclusion*

This paper has highlighted the main developments in U.S. and U.K. bank regulation after 1970. For both countries, those developments were not completely new. Particular aspects of each country’s history as well as general market and technological evolution shaped their development. Both the building up and then the tearing down of Glass-Steagall in the United States as well as other measures taken in both countries pushed banks into a less active role in corporate governance. As banking came to involve larger areas, fewer nationally bound transactions and more complex instruments both banks and their regulators became more dependent on impersonal, mathematical measures of risk. With all the recently passed and proposed changes in financial regulation, this is a particularly useful time to review the history of financial regulation in the two leading financial markets of the world.

Even a cursory review indicates that these measure have proven to be inadequate at best and that many had unintended consequences. At time of writing, the United States has passed financial reform and Europe has announced the results of its own bank stress test. It is fair to say that few observers inside or outside the financial community understand the ramifications of these developments or feel comfortable that they will remove the risk of another bankers’ panic, like the one we suffered in the fall of 2008. Indeed, the United States and Europe may have added to the risk by failing to address the *sovereign* risks imposed by many of their own actions. The abuse of mortgage financing fostered by many U.S. governments aided and abetted by Fannie Mae and Freddie Mac; overspending by many U.S. state governments; higher costs of education and health care in the United States, often debt financed; and the exorbitant social welfare systems of many European countries funded by off

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<sup>65</sup> See 2007 Annual Reports of Société Générale, UBS, Crédit Agricole, Commerzbank, and Dresdner Bank Group.

<sup>66</sup> Deutsche Bank’s 2007 Annual Report, pp. 20, 51, and 152. Understandably, Deutsche Bank’s degree of involvement in these areas raises the question of whether its excellent management or perhaps just betting right this time accounts for its relatively good showing.

balance sheet debt are only some of the state-sponsored time bombs awaiting some careless gesture.

The many benefits of our financial system, even that of 2008, should not be forgotten. Most of us liked our easy access to credit, but we expect innovation in finance as in other areas to develop without any bumps and bruises. Without condoning the arrogance and egotism of many in the financial community, the past thirty years have been among the best economically the world has ever known, even including the last few years. Liberal capitalist societies may have witnessed an increase in wealth disparity, but this generation is still better off than the last and the riches have also expanded geographically, into many areas that a generation ago could not imagine prosperity. To date, perhaps because of the wisdom of regulators or the resilience of our financial system, we have avoided the worst of the 1930s.

But we are running many risks. There are signs that the current system has become ungovernable. Regulators are too few and have insufficient resources, and most of what they have are restricted to national borders when the problems are supranational. For the most part, national politicians seemed more concerned about exploiting populist pressures for their own end. Despite huge investments in control systems and salary incentives, supposedly designed as automatic mechanisms to make managers think like shareholders, senior bank managers appear to have lost control of their institutions. With offices scattered all over the world and with many illiquid positions dependent on the complicated the effects of unknowable outcomes, it is easy to understand that they lose track of the value of their assets and liabilities, and cannot stop rogue employees from trading on their own account.