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The Executive Compensation Controversy: A Transatlantic Analysis

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Abstract

The recent financial crisis has created a public uproar over top-executive pay packages and has led to calls for reform of executive pay in Europe and the United States. The current controversy is not the first – nor will it be the last – time that executive compensation has sparked outrage and led to regulation on both sides of the Atlantic. In this report, we trace the evolution of executive compensation, its controversies and its resulting regulations, which have typically come in the form of tax policies, disclosure rules, and accounting standards. We show that many features of current executive compensation practices reflect the often-unintended consequences of regulatory responses to perceived abuses in top-executive pay, often stemming from relatively isolated events or situations.

Based on a comprehensive comparison of pay spanning six years and covering approximately 1,500 US firms and 900 firms from nine European countries, we show that US CEOs are paid only modestly more than their European counterparts after controlling for firm, ownership, and board characteristics. Moreover, we find that pay is more tightly linked to performance in the United States than throughout most of Europe, and that American executives hold more wealth in company stock and options than do their European counterparts. Indeed, we conclude that most of the difference in cross-continental pay levels is attributable to the higher use of stock and options in the United States, which in turn is related to a variety of tax, accounting, and social policies that have encouraged option grants in the United States.

The “bright spot” for incentives for European CEOs occurs in an unlikely place: the banking sector. We document a statistically strong relation between bonuses and shareholder returns for European banks, and an insignificant relation in non-banks. We also find that banking executives on both sides of the Atlantic suffered large personal losses during the recent crisis compared to their non-banking counterparts. Our evidence is inconsistent with claims that excessive risk taking in that sector was caused by the “banking bonus culture.”

While pay design can always be improved and there will always be isolated abuses, we urge governments to resist temptations to further regulate pay in both banking and nonbanking sectors. Part of the problem is that regulation – even when well intended – always creates unintended (and usually costly) side effects. Moreover, regulation is often designed to be punitive rather than constructive, and is inherently driven by politicians more interested in their political agendas rather than creating shareholder value. Ultimately, we conclude that improvements in executive compensation will best emanate through stronger corporate governance, and not through direct government intervention.

Keywords

executive pay, executive compensation, international, financial crisis

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The Executive Compensation Controversy: A Transatlantic Analysis*

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Executive Summary

The recent financial crisis has created a public uproar over top-executive pay packages and has led to calls for reform of executive pay in Europe and the United States. The current controversy is not the first – nor will it be the last – time that executive compensation has sparked outrage and led to regulation on both sides of the Atlantic. In this report, we trace the evolution of executive compensation, its controversies and its resulting regulations, which have typically come in the form of tax policies, disclosure rules, and accounting standards. We show that many features of current executive compensation practices reflect the often-unintended consequences of regulatory responses to perceived abuses in top-executive pay, often stemming from relatively isolated events or situations.

Based on a comprehensive comparison of pay spanning six years and covering approximately 1,500 US firms and 900 firms from nine European countries, we show that US CEOs are paid only modestly more than their European counterparts after controlling for firm, ownership, and board characteristics. Moreover, we find that pay is more tightly linked to performance in the United States than throughout most of Europe, and that American executives hold more wealth in company stock and options than do their European counterparts. Indeed, we conclude that most of the difference in cross-continental pay levels is attributable to the higher use of stock and options in the United States, which in turn is related to a variety of tax, accounting, and social policies that have encouraged option grants in the United States.

The “bright spot” for incentives for European CEOs occurs in an unlikely place: the banking sector. We document a statistically strong relation between bonuses and shareholder returns for European banks, and an insignificant relation in non-banks. We also find that banking executives on both sides of the Atlantic suffered large personal losses during the recent crisis compared to their non-banking counterparts. Our evidence is inconsistent with claims that excessive risk taking in that sector was caused by the “banking bonus culture.”

While pay design can always be improved and there will always be isolated abuses, we urge governments to resist temptations to further regulate pay in both banking and non-banking sectors. Part of the problem is that regulation – even when well intended – always creates unintended (and usually costly) side effects. Moreover, regulation is often designed to be punitive rather than constructive, and is inherently driven by politicians more interested in their political agendas rather than creating shareholder value. Ultimately, we conclude that improvements in executive compensation will best emanate through stronger corporate governance, and not through direct government intervention.

1. Introduction

Compensation in the United States financial services industry became highly controversial in early 2009 amid revelations that Merrill Lynch paid substantial year-end bonuses to its executives and employees after receiving bailout funds and just prior to completion of its acquisition by Bank of America. The outrage heightened following the revelation that AIG (which had received over €122 billion of federal bailout funds) was in the process of paying €121 million in “retention bonuses” to its executives.¹ The public anger over these payments – coupled with beliefs that Wall Street bonuses were a root cause of excessive risk taking that helped create the ongoing global financial crisis – led to an effective prohibition on cash bonuses for participants in the government’s Troubled Asset Relief Program (TARP) and to more-sweeping regulation of executive compensation as part of the July 2010 Dodd-Frank Wall Street Reform Act.

The anger over bonuses paid by troubled financial institutions was not restricted to the United States. In March 2009, pressure mounted on both the French government to limit banking bonuses after the French bank Natixis SA revealed plans to pay its traders €70 million in bonuses for 2008.² In the same month, Germany’s federal finance minister called for a return of Dresdner Bank’s 2008 “obscene” bonuses.³ In August 2009, both Germany and France announced new rules limiting banking bonuses, and French President Nicolas Sarkozy urged leaders of the world’s top 20 developed nations (“G20”) to follow suit.⁴ In early September 2009, the finance ministers of Sweden, the Netherlands, Luxembourg, France, Spain, Germany and Italy jointly demanded that banking bonuses be spread over several years, and called for an outright ban on bonus guarantees.⁵ In addition, President Sarkozy was joined by United Kingdom (UK) Prime Minister Gordon Brown and German Chancellor Angela Merkel in demanding reforms of “reprehensible practices” within the global banking system.⁶

¹ US dollar amounts converted to Euros at the 31 Dec 2008 exchange rate of 1:1.3919.

² Moffett, “France Faces Pressure Over Bonuses As Natixis Sets \$94.6 Million Payout,” *The Wall Street Journal* (March 28, 2009), p. B5.

³ “Call for Dresdner execs to return bonuses get mixed response,” *Banking Newslink* (March 31, 2009).

⁴ Smith, “Germany’s BaFin Clamps Down On Bank Risk Mgmt, Bonuses,” *Dow Jones International News* (August 14, 2009); Davies, “France announces bank bonus crackdown and urges G20 nations to follow suit,” *The Guardian* (August 26, 2009), p. 23; “Germany backs calls to limit banker bonuses,” *Agence France Presse* (August 28, 2009); “G-20 Leaders Near Bank-Pay Limits Amid Protests,” *Associated Press* (September 24, 2009).

⁵ “G20 : Buzek Backs Calls to Limit Bankers’ Pay,” *Europolitics* (September 10, 2009).

⁶ Monaghan, “Brown sets out plan for bonus clampdown,” *The Daily Telegraph* (September 4, 2009b), p. 1.

In November 2009, the UK adopted new rules requiring banks to publicly disclose the number of employees earning more than £1 million (€1.05 million). The following month, the British Government announced plans to impose a one-time 50% corporate tax on all banking bonuses above £25,000 (€26,250). Two days later, France imposed a similar one-time 50% corporate tax on banking bonuses above €27,500.⁷ In December 2010, the Committee of European Banking Supervisors ruled that a minimum of 40% to 60% of variable pay for most traders, brokers, and banking executives must be deferred over three to five years, and subject to forfeiture based on future performance. In addition, at least 50% of the variable pay (deferred or not) must be paid in the form of stock or other share-based instruments subject to “retention periods.” In combination, these guidelines limit the upfront cash portion of bonuses to as little as 20% of the total (that is, half of the non-deferred portion of pay), much of which would be needed to pay the income taxes on the vested but nontransferable stock grants.

The debate over banking bonuses and their alleged link to the 2008-2009 financial meltdown has focused attention on a controversial US export to Europe: the Wall Street bonus culture. More broadly, concerns about compensation-induced excessive risk taking have focused attention on executive compensation practices throughout Europe and on another controversial US export: the stock option. Once used only sparingly in the UK and France (and virtually non-existent in the rest of Europe), stock options and other forms of equity-based incentives are now prevalent features of executive compensation packages throughout Europe. Indeed, while not yet “catching up” with US pay levels, compensation for European executives is becoming as complex and confusing as that of their transatlantic counterparts.

The financial crisis has created a public uproar over top-executive pay packages and has led to calls for reform of executive pay in Europe and the United States. The current controversy is not the first – nor will it be the last – time that executive compensation has sparked outrage and led to regulation on both sides of the Atlantic. In this report, we trace the evolution of executive compensation, its controversies and its resulting regulations. Regulations have typically come in the form of tax policies, disclosure rules, and accounting standards. We show that many features of current executive compensation practices reflect

⁷ Castle, Bennhold and Erlanger, “France joins U.K. to curb big bonuses by the banks; Combined assault aimed at pressuring others to limit financial institutions,” *International Herald Tribune* (December 11, 2009a), p. 4; Castle, Bennhold and Story, “France joins Britain in a levy on bonuses; United call for bank tax is meant to raise pressure on U.S. and other nations,” *International Herald Tribune* (December 12, 2009b), p. 11; Hall, “French government backs bonus windfall tax,” (December 16, 2009).

the often-unintended consequences of regulatory responses to perceived abuses in top-executive pay, often stemming from relatively isolated events or situations.

Section 2 sketches the evolution of pay practices in the United States, focusing particular attention on policies enacted to regulate CEO pay, and the unintended (and usually counterproductive) consequences of those policies. Section 3 provides a comprehensive transatlantic comparison of pay spanning six years and covering approximately 1,500 US firms and 900 firms from nine European countries with mandated pay disclosures. Section 4 focuses on the role of executive compensation and the banking bonus culture in causing or prolonging the 2008-2009 global financial crisis. Finally, Section 5 summarizes our results and policy implications.

While pay design can always be improved and there will always be isolated abuses, we urge governments to resist temptations to further regulate pay in both banking and non-banking sectors. Part of the problem is that regulation – even when well intended – always creates unintended (and usually costly) side effects. Moreover, regulation is often designed to be punitive rather than constructive, and is inherently driven by politicians more interested in their political agendas rather than creating shareholder value. Ultimately, we conclude that improvements in executive compensation will best emanate through stronger corporate governance, and not through direct government intervention.

2. The Evolution of Executive Compensation: The US Experience⁸

2.1. Introduction

Figure 2.1 shows how average compensation for US CEOs has evolved from 1970 to 2009. The data are for CEOs in firms listed in Standard and Poor's "S&P 500" (essentially the largest 500 US firms ranked by market value), and are based on information extracted from annual *Forbes* surveys (1970-1991) and Standard and Poor's (S&P's) ExecuComp Database (1992-2009).⁹ Non-equity pay includes base salaries, payouts from short-term and long-term bonus plans, deferred compensation, and benefits. Total compensation includes non-equity compensation plus equity-based compensation, including the grant-date values of stock options and restricted stock.¹⁰

The data in Figure 2.1 are adjusted for inflation to 2008-constant dollars, and then converted to Euros at the year-end 2008 exchange rate.¹¹ As shown in the figure, average expected compensation increased from about €800,000 in 1970 to €6.0 million in 2009, down from a peak of over €12 million in 2000. The escalation in CEO pay has far outpaced wage gains for production workers: in 1970, the average CEO made 31 times the wages of the average production worker (while the median CEO made 26 times more); by 2009 the

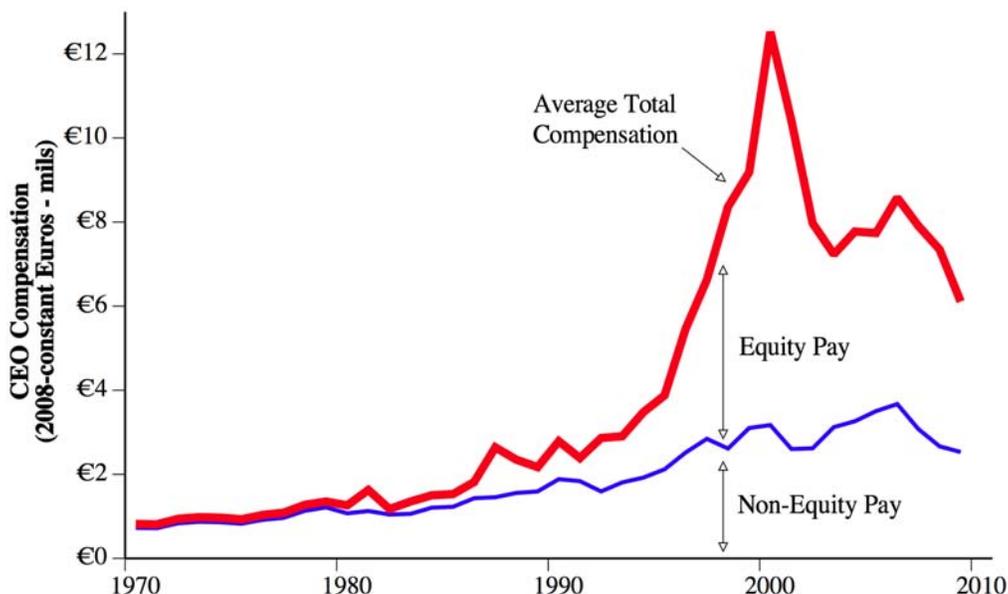
⁸ This Section draws from a variety of sources, including Jensen, Murphy and Wruck (2011) and Murphy (2011b). An expanded version of this Section will appear in Murphy (2011a).

⁹ The *Forbes* survey includes data from the largest 500 firms ranked by market capitalization, assets, sales, and net income; the union of these sets includes approximately 800 CEOs per year. The ExecuComp survey includes data from firms in the S&P 500, S&P MidCap 400, S&P SmallCap 600, plus additional firms not in these indices, and covers approximately 1800 CEOs per year. Compustat historical data were used to identify firms included in the S&P 500 at the end of each fiscal year. In defining fiscal years, we adopt the convention that companies with fiscal closings after May 31, in year "T" are assigned to fiscal year "T" while companies with fiscal closings on or before May 31, Year "T" are assigned to fiscal year "T-1". For example, the 2008 fiscal year includes companies with fiscal closings between June 1, 2007 and May 31, 2008

¹⁰ ExecuComp's "modifications" include using 70% of the option full term, and "Winsorizing" dividends and volatilities. Average and (median) equity compensation prior to 1978 estimated as 11.2% and (0%) of total pay (based on Murphy (1985), equity compensation from 1979 through 1991 estimated as amounts *realized* from exercising stock options during the year, rather than grant-date values. Using the amounts realized from the exercise of options (rather than the value of options granted) from 1978 to 1991 is also not expected to impose a large bias in the general trend in options and compensation. Indeed, Frydman and Saks (2005) show that trends based on grants and exercises were nearly indistinguishable during this period. In addition, Hall and Liebman (1998) analyze trends in grant-date option values during the 1980s and document a very similar pattern to that shown in Figure 2.1.

¹¹ We adjust to 2008 rather than 2009-constant Euros to maintain comparability with our European data in Section 3, which is available only through 2008.

Figure 2.1 Average Equity and Non-equity Compensation for CEOs in US S&P 500 Firms, 1970-2009



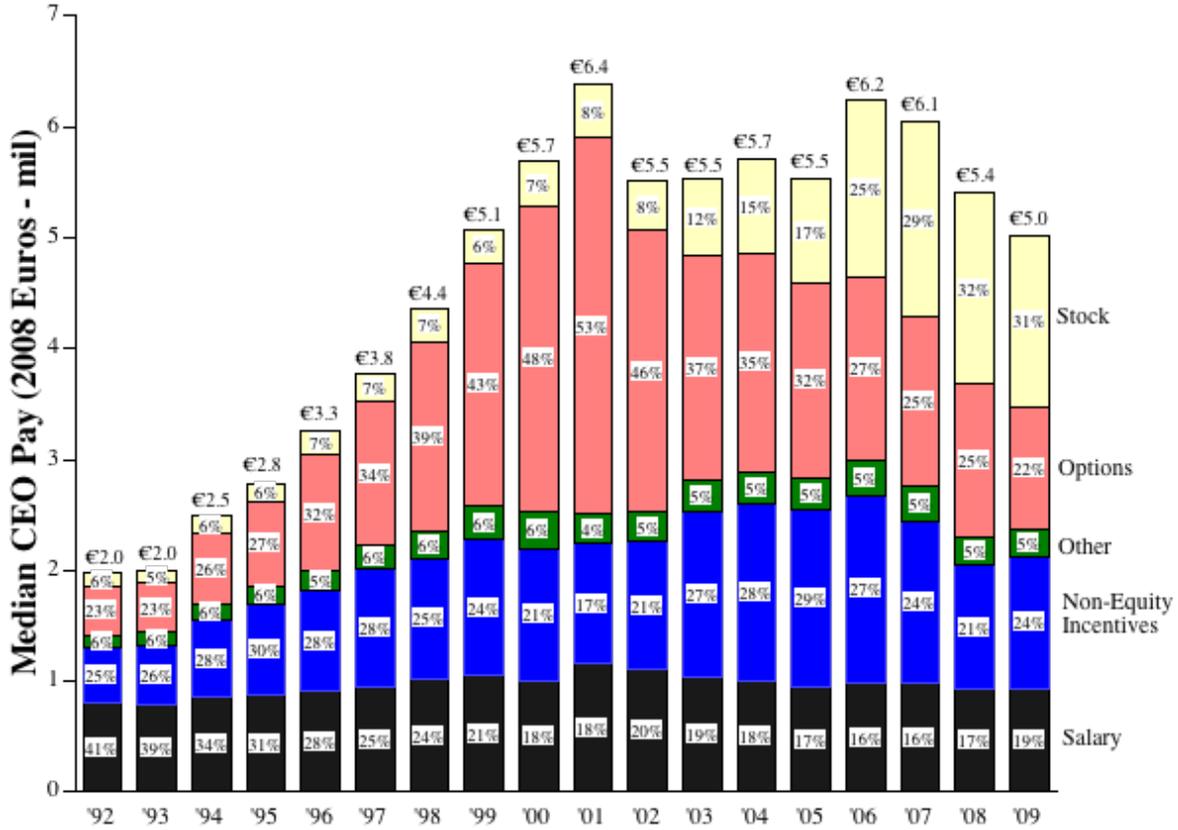
Note: Compensation data are based on all CEOs included in the US S&P 500, using data from *Forbes* and ExecuComp. CEO total pay includes cash pay, restricted stock, payouts from long-term pay programs and the value of stock options granted (using company fair-market valuations, when available, and otherwise using ExecuComp’s modified Black-Scholes approach). Equity compensation prior to 1978 estimated as 11.2% (and 0%) of total pay (based on Murphy (1985), equity compensation from 1979 through 1991 estimated as amounts *realized* from exercising stock options during the year, rather than grant-date values. Non-equity incentive pay is based on actual payouts rather than targets, since target payouts were not available prior to 2006. Monetary amounts are converted to 2008-constant US dollars using the Consumer Price Index, and then converted to Euros using the 2008 year-end exchange rate.

average CEO made 263 times the wages of production workers (while the median CEO made 219 times more).¹² The figure also shows that most of the growth in CEO pay since 1990 is explained by the growth in equity-based pay. Indeed, stock and options constituted only a trivial percentage of pay in the early 1970s, and grew to be the dominant form of pay by the late 1990s.

Figure 2.2 shows how both the composition and level of pay evolved over this time period. The Euro-denominated data are again constructed by first adjusting for inflation (using the US Consumer Price Index), and then converting to Euros using the 2008 year-end exchange rate. Because of the “skewness” in the pay distribution (where a small number of

¹² US production worker pay is from the Current Population Statistics issued by the Bureau of Labor Statistics (www.bls.gov/ces/home.htm, Table B2), and equals the average hourly earnings of production workers multiplied by 52 times the average weekly hours for such workers. Total compensation for both executives and production workers excludes company-provided benefits such as health insurance, social security taxes, etc. The ratios of CEO to worker pay are overstated to the extent that these excluded benefits represent a larger percentage of compensation for workers than for CEOs. Total compensation for production workers excludes the value of option grants to production workers, and this also leads to an overstatement of the ratio of CEO to worker pay.

Figure 2.2 Median Expected Compensation for CEOs in US S&P 500 Firms, 1992-2009



Note: Median pay levels based on ExecuComp data for S&P 500 CEOs. Total compensation (indicated by bar height) defined as the sum of salaries, non-equity incentives (including bonuses), benefits, stock options (valued on the date of grant using company fair-market valuations, when available, and otherwise using ExecuComp’s modified Black-Scholes approach), stock grants, and other compensation. “Other compensation” excludes pension-related expenses. Pay composition percentages defined as the average composition across executives. Monetary amounts are converted to 2008-constant US dollars using the Consumer Price Index, and then converted to Euros using the 2008 year-end exchange rate.

CEOs receive unusually high levels of compensation), the *median* pay in Figure 2.2 is lower than the *average* pay in Figure 2.1 in each year. The pay-composition percentages in the figure are constructed by first calculating the composition percentages for each CEO, and then averaging across CEOs.

Underlying the growth in pay for US CEOs since the 1990s is an escalation in stock-option compensation from 1993-2001 coupled with a dramatic shift away from options towards restricted stock from 2002-2009. In 1992, base salaries accounted for 41% of the €2.0 million median CEO pay package, while stock options (valued at grant date) accounted for 25 percent. By 2001, base salaries accounted for only 18% of the median €6.4 million pay, while options accounted for more than half of pay. By 2009, options fell to only 22% of pay, as many firms switched from granting options to granting restricted stock (which swelled to 31% of pay).

Why did US executive compensation evolve in this way? What are the implications for executive compensation globally, especially Europe? We argue that executive pay evolved for complex economic and political factors. Our underlying thesis is that executive compensation evolved in response to disclosure requirements, tax policies, accounting rules, legislation, corporate governance, general economic conditions, and the political climate. Indeed, many of the trends in compensation levels and practices can be traced directly to government responses to actual or perceived abuses in pay, often stemming from isolated events involving a single company or industry. We begin by examining the controversies leading to the first public disclosures of executive pay in the 1930s, which in turn laid the groundwork for all future controversies of and interventions into CEO pay in the United States.

2.2. Depression-Era Outrage And Disclosure Requirements

In 1933 Franklin D. Roosevelt became president, ending three terms and twelve years of Republican government and ushering in the “New Deal” in a country recovering from the Great Depression. In the April prior to the 1932 election – in the face of proposed bailout loans from the government’s Reconstruction Finance Corporation (RFC) – the Interstate Commerce Commission demanded that all railroads disclose executives making more than \$10,000 per year.¹³ The disclosed pay levels outraged the new Administration, and in May 1933 the RFC required railroad companies receiving government assistance to reduce executive pay by up to 60%.¹⁴ Ultimately, the US Senate authorized the Federal Coordinator of Transportation to impose an informal (but uniformly complied with) cap of \$60,000 per year for all railroad presidents.

The mandated pay disclosures for railroad executives sparked the interest of other US regulators. By mid-1933 the Federal Reserve began investigating executive pay in its member banks, the RFC conducted a similar investigation for non-member banks, and the Power Commission investigated pay practices at public utilities. In October 1933, the Federal Trade Commission required disclosure of salaries and bonuses paid by all corporations with

¹³ “Railroad Salary Report: I.C.C. Asks Class 1 Roads About Jobs Paying More Than \$10,000 a Year,” *Wall Street Journal* (April 28, 1932), p. 2.

¹⁴ The required reductions ranged from 15% (for executives earning less than \$15,000) to 60% (for executives earning more than \$100,000). See “RFC Fixed Pay Limits: Cuts Required to Obtain Loans,” *Los Angeles Times* (May 29, 1933), p. 1; “Cut High Salaries or Get No Loans, is RFC Warning,” *New York Times* (May 29, 1933), p. 1.

capital and assets over \$1 million (approximately 2,000 corporations).¹⁵ Following the Securities Act of 1934, the responsibility for enforcing pay disclosures for top executives in publicly traded corporations was consolidated into the newly created Securities and Exchange Commission (SEC).

While the SEC has no direct power to regulate the level and structure of CEO pay, the agency *does* determine what elements of pay are disclosed and how they are disclosed. The SEC has routinely expanded disclosure requirements from year to year, with major overhauls in 1978, 1993, 2006, and 2011. The first proxy statements issued after the formation of the SEC were typically about three-to-five pages long, with less than one page devoted to executive compensation. By 2007, the average proxy statement of a US firm exceeded 70 pages, nearly all of which is focused on matters of executive compensation and corporate goevrnance.¹⁶

It took over 60 years for Europe to start mandating US-style disclosure of executive pay, beginning with United Kingdom after 1995 following the Greenbury Commission (Greenbury (1995)) and Ireland in 2000 (see Section 3). Only in May 2003 did the European Union (EU) Commission formally recommend that all listed companies in the EU report details on individual compensation packages. It wasn't until about 2005 or 2006 that the majority of EU nations and firms complied. By now, many have become accustomed to the idea that shareholders – and the public, for that matter – have a “right” to know how much the CEO and other top officers are paid, and that more disclosure is always preferred to less. Although shareholders do not presume similar rights to know what the company pays other factors of production, the determination of top-management pay seems different because of the perception that CEOs set their own pay levels by pushing generous pay packages past acquiescent corporate boards.

What is often not recognized or acknowledged is that public pay disclosures of private business decisions have a cost that may well exceed their benefits. For example, the recurring populist revolts against CEO pay could not have been waged without public pay disclosure. Public disclosure effectively ensures that executive contracts in publicly held corporations

¹⁵ See Robbins, “Inquiry into High Salaries Pressed by the Government,” *New York Times* (October 29, 1933), p. 23 and “President Studies High Salary Curb: Tax Power is Urged as Means of Controlling Stipends in Big Industries,” *New York Times* (October 23, 1933), p. 1. In addition to investigating corporate executive pay, President Roosevelt personally called attention to lavish rewards in Hollywood, resulting in a provision added to the “moving-picture code” that imposed heavy fines on companies paying unreasonable salaries.

¹⁶ The average length of 2007 proxy statements for the 100 largest firms (ranked by revenues) was 62.8 pages (ignoring appendices). In 2006 – before the 2006 disclosure rules – the average length was 45 pages.

are not a private matter between employers and employees but are rather influenced by the media, labor unions, and by political forces operating inside and outside companies. Indeed, the most vocal critics of CEO pay have been uninvited guests to the table who have had no real stake in the companies being managed and no real interest in creating wealth for company shareholders or making these firms more socially productive. In contrast, shareholders allowed a nonbinding “Say on Pay” have voted in favor of CEO pay arrangements in the overwhelming majority of cases.¹⁷

2.3. The Early History of US Stock Options

In the 1920s, the US income tax was new, the use of stock options was new, and no one had figured out how options would be taxed: (1) as compensation when options are exercised (and hence taxed as “ordinary income” for the individual, and representing a deductible business expense for the company); or (2) as capital gains when the stock purchased upon exercise were ultimately sold (and hence taxed at a lower capital gains rate for the individual, with the company forgoing deductibility). It took over twenty years for this issue to be resolved. The major case study at the time involved a May 1928 option grant to the CEO of a chain of movie theaters. After a large six-month run-up in the stock price following the grant, the CEO exercised his options in October 1928 and subsequently sold the shares in 1929 and 1930, paying capital gains taxes (12.5%) on the proceeds. The Internal Revenue Service (IRS) held that he owed ordinary income taxes on the spread at exercise (25% in 1928). The taxpayer appealed the decision, and nearly nine years later the Circuit Court of Appeals (the second-highest US court) agreed with the taxpayer, concluding that a taxable gain is realized only when the shares are sold and not when the option is exercised. However, the IRS appealed this decision, and in another nine years the Supreme Court ruled in favor of the IRS, concluding in 1946 that the gain upon exercise is compensation, thereby taxable as ordinary income.

By 1950, the “tax” issue surrounding stock options was a big deal: the highest marginal tax rate on ordinary income had swelled to 91% (from 25% in 1928), compared to a capital gains rate of 25%. Moreover, while the Supreme Court required taxes to be paid immediately upon exercise. The 1934 Securities Act required executives to hold shares acquired through

¹⁷ We discuss “Say on Pay” rules and evidence in Section 2.8 below.

option exercises for at least six months before they could sell.¹⁸ For example, suppose an executive acquired one share of stock at an exercise price of €10 when the market price is €25. To finance the exercise and pay the taxes, the executive would need to pay €23.65 (i.e., the exercise price plus 91% of the exercise-date spread), but could not raise the amount by selling shares.

As part of the Revenue Act of 1950, a business-friendly Congress created a new type of stock options called “restricted stock options” that would taxable not upon exercise but only when the shares were ultimately sold (and then taxed as capital gains). Restricted stock options solved the tax-timing problem, since taxes were not owed until the stock was sold (at least six months following the exercise date). Given the tax rates at the time, restricted stock options also became a relatively efficient way to convey after tax compensation to executives. For example, at a 91% tax rate on ordinary income and 50.75% corporate tax rate, it cost shareholders €547 in after-tax profit to give the executive €100 in after-tax income.¹⁹ In contrast (and for simplicity ignoring the timing issues), when the pay is taxed as capital gains rather than ordinary income, it cost shareholders only €133 to convey €100 in after-tax income to the executive (even though shareholders forfeit the deduction).

As shown by Lewellen (1968), restricted stock options quickly became a dominant form of CEO pay (especially when measured after tax). However, these options became controversial in the early 1960s when it was revealed that companies were routinely resetting the exercise prices after price declines. In addition, shareholders sued to block Chrysler’s option program in 1960, and Congress was outraged in 1964 when Chrysler’s executives sold over \$4 million in shares acquired through its embattled option program.²⁰ In response to the controversy, the Revenue Act of 1964 significantly reduced the benefits from restricted options, requiring three year holding periods, reducing the maximum term to five years, prohibiting repricing (and in fact prohibiting exercise if the executive held an outstanding option granted at an earlier date). To distinguish options meeting these new requirements

¹⁸ To deter insider trading, Section 16b of the 1934 Securities Act requires that any profit realized by an officer or director in the purchase or sale of an equity security within a six-month period be returned to the company.

¹⁹ At a 91% tax rate, the CEO must receive €1,111 before tax to realize €100 after tax. But, at a 50.75% corporate tax rate, paying €1,111 in deductible compensation costs reduces after-tax profits by €547.

²⁰ “New Suit is Filed Against Chrysler: Shareholders Act US Court to Set Aside Company’s Stock Option Plan,” *New York Times* (August 26, 1960), p. 29; “Chrysler Officers’ Sale of Option Stock Could Stir Tax Bill Debate,” *Wall Street Journal* (December 18, 1963), p. 1; “Chrysler Chairman Defends Option Plan, Offers to Discuss It With Federal Officials,” *Wall Street Journal* (December 23, 1963), p. 6; “Chrysler Officers Got Profit of \$4.2 Million On Option Stock in ‘63,” *Wall Street Journal* (January 15, 1964), p. 6.

from restricted options granted under the Revenue Act of 1950 provisions, the 1964 Act referred to new grants as “qualified stock options” rather than restricted stock options.

The popularity of qualified stock options fell as a result of the 1964 tax law²¹ and collapsed following the Tax Reform Act of 1969, which gradually reduced the top marginal tax rate on earned income from 77% to 50% by 1972, reduced the corporate tax rate to 48%, and raised the top capital gains tax rate to 36.5%. Once the new rates were fully implemented it cost shareholders approximately €104 in after-tax profit to convey an incremental €100 in after-tax income to the CEO through cash compensation, and €157 to convey €100 in qualified stock options. Thus, for executives and companies in the highest tax brackets, qualified stock options became tax disadvantageous compared to non-qualified stock options, and have remained so throughout the early 2000s. Indeed, Hite and Long (1982) provide evidence that the 1969 Act explains the dramatic shift from qualified stock options to non-qualified stock options that took place during the early 1970s. Restricted or qualified stock options – which had been the dominant form of long-term incentives for two decades – virtually disappeared from existence

The non-qualified options that emerged in the 1970s again suffered from the tax-timing problem: executives were required to pay taxes upon exercise, but were precluded from selling shares (needed to finance exercise prices and taxes) for six months. In December 1976, the SEC ruled that companies could by-step the holding period by granting “Stock Appreciation Rights” (or “SARs”) that provide cash payments equivalent to the gains from holding stock options. As a result of the ruling, many companies replaced their option grants with SAR grants, or issued “tandem” SARs and options, allowing the executive to decide which to exercise. For the next fifteen years, SARs became a ubiquitous component of long-term compensation for most US executives.

2.4. The 1970s and the Attack on Perquisites

While cash compensation escalated (at least in nominal terms) during the 1970s, stock options languished. Part of the declining popularity of options reflected the change in tax policies discussed above that made restricted and qualified stock options less attractive. More importantly, though, was the prolonged stagnation in the stock market, driven in part by the

²¹ See Stanton, “Cash Comeback: Stock Options Begin to Lose Favor in Wake of Tax Law Revision,” *Wall Street Journal* (August 10, 1964), p. 1. Stock options briefly resurged in 1966, following a 25% increase in the Dow Jones average from 1964 to early 1966 (Elia, “Opting for Options: Stock Plans Continue in Widespread Favor Despite Tax Changes,” *Wall Street Journal* (July 15, 1967), p. 1).

oil-price shocks of 1973 and 1977. While executives continued to receive periodic option grants during this time (once every three years was typical), many of the grants replaced options that expired worthless or options that were cancelled and reissued with a lower exercise price.

The void in compensation created by worthless stock options was quickly filled by a plethora of new plans designed to provide more predictable payouts, including: book-value plans (where executives receive dividends plus the appreciation in book values); long-term performance plans (with payouts based on long-term earnings growth targets); and guaranteed bonuses (with payouts guaranteed independent of performance).²² In addition, companies began relying to a greater extent on shareholder-subsidized perquisites or “perks” such as low-interest loans, yachts, limousines, corporate jets, club memberships, hunting lodges and corporate retreats at exotic locations.

By the mid-1970s, perceived abuses attracted the ire of shareholder activists, the SEC and the IRS.²³ In 1975, the IRS attempted to reduce perquisites by disallowing favorable tax treatment for fringe benefits available only to “the most highly compensated executives.” The attack on perquisites escalated in 1977 as President Carter famously rallied against companies taking deductions for the “three-martini lunch,” yachts and hunting lodges maintained to entertain business associates, first-class air travel, and fees paid to social and athletic clubs and money spent on sports and theater tickets.²⁴ In 1977 and 1978, the SEC significantly expanded disclosures on perquisites, requiring clearer information on the full extent of benefits, insurance, and other forms of non-salary compensation.²⁵ In 1979, when

²² Ricklefs, “Sweetening the Pot: Stock Options Allure Fades, So Firms Seek Different Incentives,” *Wall Street Journal* (May 27, 1975), p. 1; Hyatt, “No Strings: Firms Lure Executives By Promising Bonuses Not Linked To Profits,” *Wall Street Journal* (December 24, 1975), p. 1; Ricklefs, “Firms Offer Packages of Long-Term Incentives as Stock Options Go Sour for Some Executives,” *Wall Street Journal* (May 9, 1977), p. 40.

²³ See, for example, Bender, “The Executive’s Tax-Free Perks: The IRS Looks Harder at the Array of Extras,” *New York Times* (November 30, 1975a), p. 195; Bender, “Fringe Benefits at the Top: Shareholder Ire Focuses on Loan Systems,” *New York Times* (April 13, 1975b), p. 161; Blumenthal, “Misuse of Corporate Jets by Executives is Drawing More Fire,” *New York Times* (May 19, 1977), p. 76; Schellhardt, “Perilous Perks: Those Business Payoffs Didn’t All Go Abroad; Bosses Got Some, Too; IRS and SEC Investigating Loans and Lush Amenities Provided for Executives; An Eye on Hunting Lodges,” *Wall Street Journal* (May 2, 1977), p. 1.

²⁴ Rankin, “Incentives for Business Spending Proposed in Corporate Package,” *New York Times* (January 22, 1978), p. 32; “Excerpts From Carter Message to Congress on Proposals to Change Tax System,” *New York Times* (January 22, 1978), p. 33.

²⁵ “Personal-Use Perks For Top Executives Are Termed Income: SEC Says Valuable Privileges Will Have to be Reported As Compensation by Firms,” *Wall Street Journal* (August 22, 1977), p. 7.; “SEC Acts to Have More Corporate Aides Disclose Pay, Nonsalary Compensation,” *Wall Street Journal* (July 27, 1978), p. 4.

the SEC implemented its first major revision in proxy disclosures since the 1930s, the SEC demanded that all personal benefits in excess of \$10,000 be footnoted and described.

The SEC's new emphasis was clearly aimed at reducing the use of perquisites, because "the excesses just got to the point where it became a scandal."²⁶ However, there is no evidence that increased mandated disclosure had in fact led to decreased use of perquisites. Indeed, the SEC significantly expanded perquisite disclosure again in both 1992 and 2006, responding to continuing allegations of abuses.

2.5. The 1980s and the Attack on Golden Parachutes

An important executive-pay development of the 1980s was the introduction of "golden parachute" agreements. These agreements – arising from the increasingly active takeover market in the early 1980s – that awarded payments to incumbent executives following a change in control, generally when CEOs lost their jobs but in many cases even when they remained employed with their firm. Although often introduced as a takeover defense (since these agreements make it more costly to acquire a firm), these agreements arguably facilitated transactions by lessening incumbent management resistance to takeovers.

Change-in-control arrangements became controversial following a \$4.1 million payment to William Agee, the CEO of Bendix. In 1982, Bendix launched a hostile takeover bid for Martin Marietta, which in turn made a hostile takeover bid for Bendix. Bendix ultimately found a "white knight" and was acquired by Allied Corp., but only after paying CEO Agee the Golden Parachute. The payment sparked outrage in Washington, but Congress could not ban golden parachute payments outright, because such a ban would pre-empt state corporation laws. Congress does, however, control the tax laws, which allow corporations to deduct compensation from income only if the payments represent "reasonable compensation" for services rendered. By defining particular types or dollar amounts of compensation as "unreasonable," Congress can directly determine whether compensation is deductible for corporate tax purposes.

²⁶ Examples include: Jensen, "Executives' Use of Perquisites Draws Scrutiny," *New York Times* (April 24, 1978), p. A1; Joseph, "U.S. Industries Faces Queries on its Perks At Annual Meeting," *Wall Street Journal* (April 20, 1978), p. 20; Metz, "Close Look Expected At Executive Perks in Proxy Material: SEC Stress on Disclosure Is Linked to Coming Tales of Holder-Assisted Goodies," *Wall Street Journal* (February 27, 1978), p. 14; Penn, "Ford Motor Covered Upkeep for Elegant Co-Op of Chairman: Questions Arise on Personal Vs. Business Use of Suite in Posh New York Hotel," *Wall Street Journal* (April 24, 1978), p. 20.

Congress attempted to discourage golden parachutes by adding Sections 280(G) as part of the Deficit Reduction Act of 1984, imposing severe personal and corporate tax penalties on golden parachute payments exceeding three times the executive's average recent compensation. The new law impacted executive compensation in several ways. First, although the cap was meant to reduce the generosity of parachute payments, the government action appeared to increase such payments: the new rules were followed by the introduction of golden parachutes (structured to satisfy the limits) in hundreds of companies that previously had no change-in-control agreements. Second, the law gave rise to the "tax gross up," in which the company would "keep executives whole" in control transactions by providing an "excise tax gross-up" in the form of an additional payment to the executive equal to the 20% excise tax as well as the income tax and additional excise tax paid on the gross-up payment. Third, because "average recent compensation" includes gains from exercising options, the law provided incentives for executives to exercise stock options even earlier than they would normally be exercised.

Finally, but perhaps most importantly, the law appear to have triggered the proliferation of "Employment Agreements" for CEOs and other top-level executives in most large firms since the mid-1980s. Section 280(G) applies only to severance payments contractually tied to changes of control. Individual CEO un-employment agreements typically provide for severance payments for *all* forms of terminations without cause, including (but not limited to) terminations following control changes. Therefore, companies can circumvent the Section 280(G) three-times-base-compensation limitations (at a potentially huge cost to shareholders) by making payments available to all terminated executives, and not only those terminated following a change in control.

2.6. The 1990s and the Explosion in Option Grants

As shown in Figure 2.2, the use of stock options in US CEO pay literally exploded in the early 1990s. Stock options soon became the primary component of executive pay – and the most controversial. We argue that the escalation of stock-option grants cannot be explained by a single factor. Instead, we believe that there are three main factors that fueled the explosion in stock options: (1) increased shareholder activism and demands that pay be better linked to shareholder returns; (2) clarifications in accounting rules and changes in holding requirements; and (3) the cap on deductibility for executive compensation that explicitly excluded stock options.

2.6.1. The Shareholder Movement

The focus on shareholder value gathered momentum on the 1990s. The takeover wave in the 1980s focused attention on shareholder returns as the preeminent measure of corporate performance. It spawned the creation of shareholder activists (such as Institutional Shareholder Services and the United Shareholders Association) who focused on improving governance and compensation. Academics (such as Jensen and Murphy (1990)) increasingly argued that traditional management incentives that focused on company size, stability, and accounting profitability destroyed rather than created value. They recommended that executive pay be tied more closely to company value through increases in stock options and other forms of equity-based incentives. These pressures began having an impact, as companies moved away from accounting-based LTIPs back toward stock options as the predominate form of long-term incentives (Hall and Liebman (1998)). The stock market was helping, too. Following 18 years of stagnant returns, the bellwether Dow Jones average nearly quadrupled from January 1981 through December 1992, in spite of the (short-lived) October 1987 stock-market crash.²⁷

The 1980s takeover market was, in large part, a response to the corporate waste and value-destroying conglomeration activities in the 1970s, showing that tremendous value could be unleashed by shedding lines of business, focusing operations and reducing excess capacity. The so-called “corporate raiders” focused particularly on poorly run, diversified firms traded that at a price discount. While the takeover market was essentially shut down in the late 1980s through a series of government rules restricting hostile takeovers and investments in high-yield debt (the primary financing instrument for many takeovers), the recipe for creating value endured. In particular, the robust stock-market performance in the late 1980s and early 1990s was associated with two related trends: unprecedented gains for executives exercising stock options, coupled with significant increases in layoffs and corporate downsizing. While shareholders generally applauded these developments, the combination of layoffs and large option gains fueled an unprecedented populist rage against CEO pay on both Main Street and Washington.

In response to growing outrage, legislation was introduced in the House of Representatives disallowing deductions for compensation exceeding 25 times the lowest-paid worker, and the “Corporate Pay Responsibility Act” was introduced in the Senate to give

²⁷ In particular, the Dow Jones Industrial Average closed at 874.1 for 1964 and 875.0 in 1981, and 3301.1 in 1992. The Dow Jones Average fell 26% over two days in October 1987, but had surpassed pre-crash highs by mid-1989.

shareholders' more rights to propose compensation-related policies. The SEC preempted the pending Senate bill in February 1992 by requiring companies to include non-binding shareholder resolutions about CEO pay in company proxy statements,²⁸ and announced sweeping new rules in October 1992 affecting the disclosure of top executive compensation in the annual proxy statement. The bulk of the new disclosure rules focused on stock options, requiring for the first time details on the terms of each option grant (exercise price, expiration date, and either the grant-date or potential value), and details on the portfolio of options held at the end of each year. The fact (from Figure 2.2) that the use of options exploded following these new disclosure rules provides additional evidence on the ineffectiveness of disclosure in reducing perceived excesses in compensation.

The controversy over CEO pay in the early 1990s revealed important distinctions between the two factions most interested in CEO pay. One faction – populated by certain politicians, labor unions, and the media – fixated on the *level of pay* and the growing inequality between executive and worker pay. The other faction – populated by shareholder activists, institutional shareholders, and many academics – focused on *incentives* and sought to increase the link between CEO pay and corporate performance. Tensions between these two groups have surfaced in almost every pay controversy since that time.

2.6.2. Accounting Issues and Holding Requirements

The restricted and qualified stock options created by the 1950 and 1964 Revenue Acts were not formally considered “compensation” and therefore companies did not record an expense for such options for either tax or accounting purposes. The switch to non-qualified options in the 1970s – which were considered compensation for tax purposes – raised a new question: how should options be accounted for in company income statements? In October 1972, the Accounting Principles Board (APB) – the predecessor to the modern Financial Accounting Standards Board (FASB) – issued APB Opinion No. 25, “Accounting for Stock Issued to Employees.” Under APB Opinion No. 25, the compensation expense associated with stock option was defined as the (positive) difference between the stock price and the exercise price as of the first date when both the number of options granted and the exercise price become known or fixed. The expense for this spread between the price and exercise price – called the “intrinsic value” – was amortized over the period in which the employee is

²⁸ “Shareholder Groups Cheer SEC’s Moves on Disclosure of Executive Compensation,” *Wall Street Journal* (February 14, 1992).

prohibited from exercising the option.²⁹ Under this rule – which predated modern option-valuation theory pioneered by Black and Scholes (1973) – there was no charge for options granted with an exercise price equal to (or exceeding) the grant-date market price, because the spread is zero on the grant date.

While companies like the idea that options could be granted without an accounting cost, options continued to have the tax-timing disadvantage: executives exercising options had to pay taxes (and the exercise price) immediately upon exercise, but were precluded from selling the shares for six months. In contrast, the relevant alternative to options (stock appreciation rights) had no accounting advantages (companies would take an accounting charge for the accumulated appreciation in the SARs), but also no holding requirements. In May 1991, the SEC “solved” the tradeoff by declaring that the six-month holding period begins when options are granted, and not when executives acquire shares upon exercise. Therefore, as long as the executive has held the option for at least six months, he is allowed to sell immediately shares acquired when options are exercised. This new ruling eliminated the primary advantage of SARs over non-qualified options and, as a result, SARs largely disappeared from existence.

It initially appeared that the combined advantages of stock options (no accounting cost and no holding period) would be short-lived, after legislation was introduced in the Senate in late 1991 requiring companies to account for stock options in company income statements. Although that particular bill was ultimately shelved, it provided pressure on for renewed FASB focus on option expensing.

In April 1992, FASB voted 7-0 to endorse an accounting charge for options, and issued a formal proposal in 1993. The proposal created a storm of criticism among business executives, high-tech companies, accountants, compensation consultants, the Secretary of the Treasury, and shareholder groups.³⁰ Even President Clinton, usually a critic of high executive pay, waded into the debate in December 1992, expressing that “it would be unfortunate if FASB’s proposal inadvertently undermined the competitiveness of some of America’s most

²⁹ This period is often called the “vesting period” but this terminology is misleading since vesting implies that the executive is free to sell the option or keep it if he leaves the firm, as opposed to being only able to exercise the option.

³⁰ See, for example, Berton, “Business chiefs try to derail proposal on stock options,” *Wall Street Journal* (February 5, 1992); Harlan and Berton, “Accounting Firms, Investors Criticize Proposal on Executives’ Stock Options,” *Wall Street Journal* (February 19, 1992); “Bentsen Opposes FASB On Reporting Stock Options,” *Wall Street Journal* (April 7, 1993); Berton, “Accounting Rule-Making Board’s Proposal Draws Fire,” *Wall Street Journal* (January 5, 1994); Harlan, “High Anxiety: Accounting Proposal Stirs Unusual Uproar In Executive Suites,” *Wall Street Journal* (March 7, 1994).

promising high-tech companies.”³¹ In March 1994, FASB held public hearings on the issue. In the aftermath of the overwhelmingly negative response, FASB announced it was delaying the proposed accounting change by at least a year, and in December it dropped the proposal.

In 1995, the FASB issued a compromise rule, FAS 123, which *recommended* but did *not require* that companies expense the “fair market value” of options granted (using Black-Scholes or a similar valuation methodology). However, while FASB allowed firms to continue reporting under APB Opinion 25, it imposed the additional requirement that the value of the option grant would be disclosed in a footnote to the financial statements. Until late 2002, only a handful of companies adopted FASB’s recommended approach. Predictably, only a handful of companies adopted FASB’s recommended approach. Not until the accounting scandals in the early 2000s did firms voluntarily begin to expense their option grants.

The accounting treatment of options promulgated the mistaken belief that options could be granted without any cost to the company. This view was wrong, of course, because the “opportunity” or economic cost of granting an option is the amount the company could have received if it sold the option in an open market instead of giving it employees. Nonetheless, the idea that options were “free” (or at least cheap) was erroneously accepted in too many boardrooms. Options were particularly attractive in cash-poor start-ups (such as in the emerging “new economy” firms in the early 1990s) who could compensate employees through options without spending any cash. Indeed, providing compensation through options allowed the companies to generate cash, since when options were exercised the company received the exercise price and could also deduct the difference between the market price and exercise price from its corporate taxes. The difference between the accounting and tax treatment gave option-granting companies the best of both worlds: no accounting expense on the companies’ books, but a large deduction for tax purposes. When coupled with the May 1991 rule eliminating holding requirements after exercise, stock options had important perceived advantages over all other forms of compensation.

2.6.3. Clinton’s \$1 Million Deductibility Cap

Corporations in the United States are generally allowed to deduct from income all “reasonable” compensation expenses. In the 1992 US presidential campaign, candidate Bill Clinton promised to “end the practice of allowing companies to take unlimited tax deductions

³¹ “Clinton Enters Debate Over How Companies Reckon Stock Options,” *Wall Street Journal* (December 23, 1993).

for excessive executive pay” by defining compensation exceeding \$1 million as unreasonable and therefore not deductible. Concerns about the loss of deductibility following the election contributed to an unprecedented rush to exercise options before the end of the 1992 calendar year, as companies urged their employees to exercise their options while the company could still deduct the gain from the exercise as a compensation expense.³²

By February 1993, then-President Clinton backtracked on the idea of making *all* compensation above \$1 million unreasonable and therefore non-deductible, suggesting that only pay “unrelated to the productivity of the enterprise” was unreasonable.³³ In April, details of the considerably softened plan began to emerge.³⁴ As proposed by the Treasury Department and eventually approved by Congress, Section 162(m) of the tax code applies only to public firms and not to privately held firms, and applies only to compensation paid to the CEO and the four highest-paid executive officers as disclosed in annual proxy statements (compensation for all others in the firm is fully deductible, even if in excess of the million-dollar limit). More importantly, Section 162(m) does not apply to compensation considered “performance-based” for the CEO and the four highest paid people in the firm.

Stock options granted with an exercise price at or above the grant-date market price are generally considered performance-based compensation as defined under Section 162(m), and are therefore gains from exercising such options are fully deductible as a compensation expense. However, restricted stock, and options issued with an exercise price below the grant-date market price do not qualify as performance based.

Taken in combination, the policy and economic conditions discussed above created a “perfect storm” that virtually guaranteed the explosion in option grants:

- Shareholders increasingly clamored for pay to be linked to stock-price performance;
- The SEC determined that shares acquired by exercising options could be sold immediately upon exercise;
- After pushing for expensing, FASB backed down and allowed options to be granted without an accounting expense to the company.

³² Chronicle Staff and Wire Reports, “Big Earners cashing in now: fearful of Clinton’s tax plans, they rush to exercise their options,” *San Francisco Chronicle* (December 29, 1992).

³³ Freudenheim, “Experts see tax curbs on executives’ pay as more political than fiscal,” *New York Times* (February 12, 1993).

³⁴ Greenhouse, “Deduction proposal is softened,” *New York Times* (April 9, 1993).

- Section 162(m) provided a “safe harbor,” by exempting options from the deductibility limits.

And, explode they did. As shown in Figure 2.2, CEO incentive compensation in the early 1990s was split about evenly between options and accounting-based bonuses. By 1996, options had become the largest single component of CEO compensation in S&P 500 firms, and the use of options was even greater in smaller firms (and especially high-tech start-ups). By 2000, stock options accounted for more than half of total compensation for a typical S&P 500 CEO.

As the option grants for top executives increased, companies faced growing pressure to push grants to managers and employees at lower levels in the organization³⁵. Employees clamored for broad-based grants, but only if the company would promise that other components of their compensation would not be lowered. Boards readily succumbed, especially since (prior to changes in exchange listing requirements in mid-2003) shareholder approval was required for plans where option awards were concentrated among top executives but was *not* required for broad-based plans that covered large numbers of employees. In addition, several bills that encouraged broad-based stock option plans were introduced in Congress. As a result of these pressures, the number of options granted (expressed as a fraction of outstanding shares) grew substantially. Over the 14-year 1992-2005 time period, the average US S&P 500 company awarded over €1 billion worth of options to its executives and employees (or €500 billion across all 500 companies). Moreover, the average S&P 500 company transferred through options approximately 25.6% of its total outstanding equity to its executives and employees (Murphy, Jensen and Wruck (2011)).

2.7. Accounting Scandals and the Rise of Restricted Stock

2.7.1. Accounting Scandals and Sarbanes Oxley

Accounting scandals erupted across corporate America during the early 2000s, destroying the reputations of once-proud firms such as Enron, WorldCom, Qwest, Global Crossing, HealthSouth, Cendant, Rite-Aid, Lucent, Xerox, Tyco International, Adelphia, Fannie Mae, Freddie Mac and Arthur Anderson. During the midst of these scandals,

³⁵ See, for example, Flanigan, “It’s Time for All Employees to Get Stock Options,” *Los Angeles Times* (April 21, 1996), who argued that all employees should receive options if top executives receive options.

Congress quickly passed the sweeping Sarbanes-Oxley Act in July 2002, setting or expanding standards for accounting firms, auditors, and boards of directors of publicly traded companies. The Act was primarily focused on accounting irregularities and not on compensation. However, Congress could not resist the temptation to use the new law to further regulate executive pay.

First, in direct response to the forgiveness of certain corporate loans given to executives at Tyco International, Section 402 of Sarbanes Oxley prohibited all personal loans to executives and directors, regardless of whether such loans served a useful and legitimate business purpose. For example, prior to Sarbanes Oxley, companies would routinely offer loans to executives to buy company stock, often on a non-recourse basis so that the executive could fulfill the loan obligations by returning the purchased shares.³⁶ Similarly, in order to attract executives, companies would routinely offer housing subsidies in the form of forgivable loans, a practice made unlawful under the new regulations.³⁷ Finally, Sarbanes Oxley is viewed as prohibiting company-maintained “cashless exercise programs” for stock options, where an executive exercising options can use some of the shares acquired to finance both the exercise price and income taxes due upon exercise.³⁸

Second, Section 304 of Sarbanes Oxley requires CEOs and CFOs to reimburse the company for any bonus or equity-based compensation received, and any profits realized from selling shares, in the twelve months commencing with the filing of financial statements that are subsequently restated as a result of corporate misconduct. This “clawback” provision of Sarbanes Oxley – which was subsequently extended in the TARP legislation and Frank-Dodd Financial Reform Act – was notable mostly for its ineffectiveness. Indeed, in spite of the wave of accounting restatements that led to the initial passage of Sarbanes Oxley, the first

³⁶ Indeed, it is easy to show that a traditional at-the-money stock option is equivalent to a non-recourse loan to purchase company stock at a zero interest rate. Loans to purchase stock that carry a positive interest rate or require an executive down payment are less costly to grant than traditional options, and deliver better incentives by both forcing executives to invest some of their own money in the venture and by only providing payouts when the stock price appreciates by at least the interest charged on the loan. It is unfortunate that Congress prohibited these types of plans.

³⁷ Offering housing subsidies in the form of loans that are forgiven with the passage of time is preferable to a lump-sum subsidy, since the company can avoid paying the full subsidy if the executive leaves the firm before the loan is repaid or fully forgiven.

³⁸ Technically, cashless exercise programs are implemented by offering the executive a short-term “bridge loan” to finance the purchase of the shares, followed by open-market transactions to sell some of the shares to repay the loan. Subsequent to Sarbanes Oxley, executives exercising options have turned to conventional banks for bridge-loan financing, significantly increasing the transaction costs and further diluting the shares outstanding (since under company-maintained programs, the company need only issue the “net” number of shares and not the full number of shares under option).

individual clawback settlement under Section 304 did not occur until more than five years later, when UnitedHealth Group's former CEO was forced to return \$600 million in compensation.³⁹ The SEC became more aggressive in 2009, launching two clawback cases where the targeted executives were not accused with personal wrongdoing.⁴⁰

Finally, Section 403 of Sarbanes Oxley required that executives disclose new grants of stock options within two business days of the grant; before the Act options were not disclosed until 45 days after the company's fiscal closing. This provision had the unintended but ultimately beneficial effect of curbing option backdating for top executives more than two years before the unsavory practice was uncovered.

2.7.2. Option Backdating

In 2005, academic research by Lie (2005) and subsequent investigations by the *Wall Street Journal* unearthed a practice that became known as "option backdating."⁴¹ Under this practice, companies deliberately falsified stock option agreements so that options granted on one date were reported as if granted on an earlier date when the stock price was unusually low – often the lowest price in the quarter or in the year. Thus, options that were reported as granted "at the money" (that is, with an exercise price equal to the market price on the reported grant date) were in reality granted "in the money" (that is, with an exercise price well below the market price on the actual grant date). This unsavory practice violates federal disclosure rules, accounting and tax laws, and often violated the company's own stock-option policies, in various ways.

First, under SEC rules in effect since 1993, companies granting options with an exercise price different from the fair market price on the grant date are required to disclose this information to shareholders. Thus, companies backdating options should have informed

³⁹ Plitch, "PAYDIRT: Sarbanes-Oxley A Pussycat On 'Clawbacks'," *Dow Jones Newswires* (June 9, 2006); Bowe and White, "Record Payback over Options," *Financial Times* (December 7, 2007), p. 15.

⁴⁰ Berman, "The Game: New Frontier For the SEC: The Clawback," *Wall Street Journal* (June 22, 2010), p. C1; Korn, "Diebold to Pay \$25 Million Penalty," *Wall Street Journal* (June 3, 2010).

⁴¹ Key references include Lie (2005), Heron and Lie (2006b), Heron and Lie (2006a), Maremont, "Authorities probe improper backdating of options: Practice allows executives to bolster their stock gains; a highly beneficial pattern," *Wall Street Journal* (Nov. 11, 2005), Forelle and Bandler, "Backdating probe widens as two quit Silicon Valley firm; Power Integrations Officials leave amid options scandal; 10 companies involved so far," *Wall Street Journal* (May 6, 2006), Forelle, "How Journal Found Options Pattern," *Wall Street Journal* (May 22, 2006), p. A11, Wall Street Journal, "Hot Topic: Probing Stock-Options Backdating," *Wall Street Journal* (May 27, 2006), p. A5.

shareholders that the options were actually issued with an exercise price less than the fair market value on the actual grant date.

Second, as discussed in Section 2.6.2 above, under FASB rules in effect before 2005, companies would typically face an accounting charge for stock options only if the exercise price was set lower than the grant-date market price. Thus, companies that backdated options reported no accounting expense when the actual accounting expense should have been the “spread” between the market and exercise price. Companies backdating options are therefore not only falsifying option agreements, they are committing accounting fraud.

Third, as discussed in Section 2.6.3 above, options granted with an exercise price less than the grant-date market price are not considered “performance-based” and therefore subject to the \$1 million limit on deductibility under IRS Section 162(m). Thus, assuming that the affected executives are subject to the \$1 million threshold, companies that backdated options are taking deductions for compensation that is not deductible.

Finally, most shareholder-approved stock option agreements include provisions specifying that option exercise prices must be no less than 100% of the market price on the date of grant. Thus, companies with such provisions that backdate options are violating their own internal policies.

The *Wall Street Journal's* crusade against backdating triggered SEC investigations into more than 140 firms. Indeed, the SEC prosecuted backdating cases with a zeal usually reserved for hardened criminals. Executives associated with backdating schemes were charged with myriad crimes, including filing false documents, securities fraud, and conspiracy to commit securities fraud. Several executives received prison terms (some reversed on appeal), and at least one CEO fled the country, fighting extradition while remaining on the FBI's “most wanted” list.⁴² In addition to the SEC civil and criminal charges, scores of companies have restated their financials based on internal investigations into backdating, and many have settled class action or derivative suits brought by shareholders.

In retrospect, while issuing options with exercise prices below grant-date market prices can be part of an efficient compensation structure, it is impossible to defend the practice of backdating and the ex post manipulation and falsification of grant dates. However, it is also

⁴² Bray, “Former Converse Official Receives Prison Term in Options Case,” *Wall Street Journal* (May 11, 2007), p. A6; “Fugitive Mogul's Rent Coup,” *New York Post* (August 26, 2009), p. 16.

difficult to defend the SEC's aggressiveness in prosecuting and criminalizing what would seem to be relatively minor books and records infractions. Consider the following:

- There is nothing illegal about setting exercise prices to the lowest price observed during a month or quarter (or any other price), as long as the company appropriately discloses the practice and records an accounting expense equal to the difference between the exercise price and the market price on the "true" grant date. In practice, however, very few firms issue options with exercise prices below market prices precisely because of the accounting charge associated with such options.
- Companies charged with backdating have restated their financials to reflect the actual spread between the exercise and market price. However, this remedy misses the point: the relevant alternative to backdating was *not* issuing discount options and taking an accounting charge, but rather issuing a larger number of at-the-money options and avoiding the accounting charge. Therefore, under this "relevant alternative," there would be no change in reported accounting expenses or earnings, but there would be an increase in the number of options granted.
- There is no evidence to our knowledge that companies engaged in backdating systematically overpaid lower-level employees receiving such grants, thus no evidence that backdating was associated with a large transfer of wealth from shareholders to employees.⁴³

2.7.3. Enron and Section 409(A)

Enron, like many other large companies, allowed mid-level and senior executives to defer portions of their salaries and bonuses through the company's non-qualified deferred compensation program. When Enron filed for Chapter 11 bankruptcy protection in December 2002, about 400 senior and former executives became unsecured creditors of the corporation, eventually losing most (if not all) of the money in their accounts.⁴⁴ However, just before the bankruptcy filing, Enron allowed a small number of executives to withdraw millions of dollars from their deferred compensation accounts. The disclosure of these payments

⁴³ Bebchuk, Grinstein and Peyer (2010) show that CEOs receiving "lucky" grants (which they define as grants with exercise prices set at the lowest price during the grant month) have higher total compensation than CEOs without lucky grants.

⁴⁴ Barboza, "Enron's Many Strands: Executive Compensation. Enron paid some, not all, deferred compensation," *New York Times* (February 13, 2002).

generated significant outrage (and law suits) from Enron employees who lost their money, and attracted the ire of Congress.

As a direct response to the Enron situation, Congress added Section 409(A) to the tax code, imposing large tax penalties on deferred-compensation arrangements where the employee could choose when to realize the compensation (unless the choice was made before the initial award). The new rules significantly broaden the definition of deferred compensation, including (under some circumstances) annual bonuses or reimbursement of expenses paid after the close of the fiscal year, supplemental executive retirement plans, phantom stock awards, stock appreciation rights, split-dollar life insurance arrangements, and deferred severance awards. While developed as a response to the Enron situation, Section 409(A) was still begin drafted when the option backdating scandals came to light. As a result, Congress defined discount options (i.e., options with an exercise price below the market price on the date of grant) as deferred compensation subject to Section 409(A). The new rule was applied retroactively to options granted before 2005 but not vested as of December 31, 2004, and was explicitly designed to penalize options granted to senior executives through backdating schemes.

2.7.4. The Shift to Restricted Stock

As shown in Figure 2.1, the compensation of the average S&P 500 CEO peaked in 2001 after increasing monotonically for over a decade; average compensation peaked a year earlier along with the Internet “bubble.” Since that time, both the median and average level of total compensation have fluctuated, but have not displayed a discernable trend. But, as shown in Figure 2.2, the apparent “leveling” of CEO pay in the United States masks a more dramatic change: the decline in stock options and the emergence of restricted stock as the largest single component of compensation. Figure 2.3 shows the percentage of S&P 500 companies that made stock option or restricted stock grants to their CEOs between 1992 and 2009. The percentage of companies granting options in each year increased from about 63% in 1992 to 88% by 2001, falling to 67% in 2009. Over the same time period, the percentage of companies making restricted stock grants more than tripled from 24% to 75%. The trend suggests a substitution of restricted stock for stock options, although more than half of the S&P 500 CEOs have received *both* options and restricted stock annually since 2006.

Figure 2.3 CEOs in US S&P 500 Firms receiving equity-based compensation, 1992-2009



Note: Sample is based on all CEOs included in the S&P 500, based on Standard and Poors' ExecuComp database.

One obvious explanation for the drop in stock options and the rise in restricted stock since the early 2000s is the stock market crash associated with the burst of the Internet Bubble in 2000 and exacerbated by the terrorist attacks on the World Trade Center in 2001. In particular, the sharp market-wide decline in stock prices in the early 2000s left many outstanding options underwater and lowered executive expectations for the future increases in their company's stock prices. However, the spike in the importance of restricted shares in 2006 (rising in Figure 2.2 from 17% to 25% of total pay from 2005 to 2006) in a year with robust stock-market performance (the Dow Jones increased by 16% in 2006) suggests that the decline in stock options in favor of restricted shares reflects more than market trends. We believe the answer reflects changes in the accounting treatment of options.

The scandals that erupted across corporate America during the early 2000s focused attention on the quality of accounting disclosures, which in turn renewed pressures for companies to report the expense associated with stock options on their accounting statements. Before 2002, only a handful of companies had elected to "expense options" under FAS123; the remainder elected to account for options under the old rules (where there was typically no expense). In the summer of 2002, several dozen firms announced their intention to expense options voluntarily; more than 150 firms had elected to expense options by early

2003 (Aboody, Barth and Kasznik (2004)). Moreover, shareholder groups (most often representing union pension funds) began demanding shareholder votes on whether options should be expensed. More than 150 shareholder proposals on option expensing were submitted during the 2003 and 2004 proxy season (Ferri and Sandino (2009)). By late 2004, about 750 companies had voluntarily adopted or announced their intention to expense options. In December 2004, FASB announced FAS123R which revised FAS123 by *requiring* all US firms to recognize an accounting expense when granting stock options, effective for most firms for the 2006 fiscal year.

Under the accounting rules in place since 1972 (and continuing under FAS123R), companies granting restricted stock recognize an accounting expense equal to the grant-date value of the shares amortized over the vesting period. Under FAS123R, the expense for stock options is similar to that of shares of stock: companies must recognize an accounting expense equal to the grant-date value of the options amortized over the period when the option is not exercisable. Option expensing (whether voluntarily under FAS123, or by law under FAS123R) significantly “leveled the playing field” between stock and options from an accounting perspective. As a result, companies reduced the number of options granted to top executives (and other employees), and greatly expanded the use of restricted shares. The use of restricted stock before 2006 was primarily constrained to companies that voluntarily expensed their options under FAS123. As evident from Figure 2.2, the use of restricted stock increased significantly in 2006 when option expensing became mandatory for all firms.

2.8. The Financial Crisis and the Dodd-Frank Act

In Section 4 below, we examine compensation in the financial-services sectors in both the United States and Europe, focusing on the role of the “banking bonus culture” in causing or prolonging the 2008-2010 global financial crisis. In this section, we explore how the US government response to the crisis has affected US executive practices far beyond the banking sector.

In the wake of the financial crisis, President Obama signed into law the Dodd-Frank “Wall Street Reform and Consumer Protection Act” (“Dodd-Frank Act”) on July 21, 2010.⁴⁵ While ostensibly focused on regulating firms in the financial services industry, the authors of the Act seized the opportunity to pass a sweeping reform of executive compensation and

⁴⁵ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub.L. No. 111–203, 124 Stat. 1376 (2010).

corporate governance imposed on all large publicly traded US firms across all industries (Title IX, Subtitles E and G). Dodd-Frank imposes significant new rules on public firms:

“SAY ON PAY” [SEC. 951]. Shareholders will be asked to approve the company’s executive compensation practices in a non-binding vote occurring at least every three years (with an additional vote the first year and every six years thereafter to determine whether the “say on pay” votes will occur every one, two, or three years). In addition, companies are required to disclose, and shareholders are asked to approve (again, in a non-binding vote), any golden parachute payments in connection with mergers, tender offers, or going-private transactions.

CLAWBACKS [SEC. 954]. Companies must implement and report policies for recouping payments to executive based on financial statements that are subsequently restated. The rule applies to any current or former executive officer (an expansion of Sarbanes Oxley, where only the CEO and CFO were subject to clawbacks), and applies to any payments made in the three-year period preceding the restatement (Sarbanes Oxley only applied for the twelve months following the filing of the inaccurate statement).

ADDITIONAL DISCLOSURES [SEC. 953; 955; 972]. Companies must report the ratio of CEO compensation to the median pay for all other company employees. Companies must analyze and report the relation between realized compensation and the firm’s financial performance, including stock-price performance. In addition, companies must disclose its policies regarding hedging by employees to protect against reductions in company stock prices. Finally, the Dodd-Frank Act requires companies to disclose their policies and practices on why the company chooses either to separate the Chairman and CEO positions, or combine both roles.

COMPENSATION COMMITTEE INDEPENDENCE [SEC. 952]. Following Sarbanes-Oxley (2002) requirements for Audit Committees, publicly traded companies are required to have compensation committees comprised solely of outside independent directors (where “independence” takes into account any financial ties the outside directors might have with the firm).

In addition, companies must assess the independence of compensation consultants, attorneys, accountants, and other advisors to the compensation committees.

PROXY ACCESS [SEC. 971]. The Dodd-Frank Act authorized the SEC to issue rules allowing certain shareholders to nominate their own director candidates in the company's annual proxy statements.

Sorting out the details required to implement the compensation and governance reforms were delegated (mostly) to the SEC. The SEC issued its rule on Proxy Access in August 2010 and Say on Pay in January 2011; in both cases the rules were effective immediately for firms with market capitalization exceeding \$75 million, and three years later for smaller firms. The final rules on the other provisions have not yet been announced, and it will be a few years in any case before the consequences of the Dodd-Frank Act can be fully analyzed. However, based on experiences with similar rules, we can speculate on the ultimate impact.

In mandating "Say on Pay," the Dodd-Frank Act follows similar rulings for non-binding shareholder votes enacted in the United Kingdom in 2002 and later in Australia, Denmark, France, Portugal, Spain, and Sweden; the Netherlands and Norway went a step further by allowing *binding* shareholder votes. "Say on Pay" had long been a favorite objective of Democrats in Congress, and the "Say on Pay" Bill passed the House in April 2007 by a 2:1 margin. While the companion bill introduced in the Senate by then-Senator Obama was shelved prior to a vote, say was widely expected to become law following the 2008 presidential election, especially after "Say on Pay" was mandated for TARP recipients as part of the Dodd Amendments.

In spite of the support, however, there is only very modest evidence that "Say on Pay" results in important changes to compensation practices. In the United Kingdom (where we have the most data), there is some evidence that negative Say-on-Pay votes have led to some reductions in salary continuation periods in severance agreements and some changes in performance-based vesting conditions in equity plans, but importantly there is no evidence that the votes have affected compensation levels (Ferri and Maber (2010); Conyon and Sadler (2010)). In addition, it is not clear that stockholders share the outrage often appearing in the media: pay plans rarely receive a majority of negative votes (Conyon and Sadler (2010)). In the United States, where shareholders voted on the compensation for TARP executives for the first time in early 2009, the plans were passed at all firms, with an average of 88.6% of the votes cast in favor of management. Among the TARP recipients garnering the strongest support were the Wall Street firms whose compensation systems allegedly

fostered the financial crisis, including Goldman Sachs (98%), AIG (98%), JPMorgan (97%), Morgan Stanley (94%), Citigroup (84%), and Bank of America (71%).⁴⁶

The Dodd-Frank provisions on the independence of the compensation committee will have little practical effect for large companies, since the listing requirements of the NYSE and NASDAQ have required independent compensation committees since 2003, and the IRS has required independent compensation committees (for Section 162(m) purposes) since 1994. The provision related to the independence of compensation consultants, in combination with SEC disclosure rules introduced in December 2009, will encourage more committees to retain their own independent consultant in addition to the consultants engaged by management.⁴⁷

Potentially more interesting are the expanded clawback provisions in Dodd-Frank. The Sarbanes Oxley experience shows that companies rarely try to recover erroneously awarded compensation from its CEO and CFO, often citing potential litigation costs and the feasibility of recouping money that has already been paid and taxed. The Dodd-Frank provision makes it more difficult for boards to shirk their responsibility to recovery erroneously awarded pay, and indeed likely subjects boards to shareholder litigation if they don't even try.

Potentially more “mischievous” is the new required disclosure of the ratio of CEO pay to the median pay of all employees. The calculation costs alone can be immense for large multinational or multi-segment corporations where payroll is decentralized: to compute the median the company needs an often non-existent single compensation database with all employees worldwide. More importantly, however, is what shareholders are supposed to do with this new information, or how they should determine whether a ratio is “too high” or “too low”. Ultimately, the provision reflects a belief in Congress that CEO pay is excessive and that disclosing the ratio will shame boards into lowering CEO pay.

Finally, potentially most important is the Proxy Access rule allowing shareholders to include their director nominees on the proxy alongside with the board's nominees. In issuing

⁴⁶ Tse, “Shareholders Say Yes To Executive Pay Plans; Review Tracks Advisory Votes at TARP Firms,” *Washington Post* (September 26, 2009), p. A12. It is worth noting that shareholders voting in early 2009 were largely voting on 2008 compensation, long before the Dodd Amendments or the appointment of the Special Master.

⁴⁷ The 2009 SEC disclosure rules require companies to disclose the fees paid to executive compensation consultants for any work beyond executive compensation (e.g., actuarial work, benefits administration, employee pay, etc.), but offers a “safe harbor” (i.e., no disclosure requirement) when the committee retains their own independent consultant. Interestingly, Murphy and Sandino (2010) find that levels of CEO pay are significantly higher in firms with consultants working exclusively for the compensation committee.

its final rule in August 2010, the SEC limited access to shareholders who have held at least 3% of the company's stock for at least three years. One view is that Proxy Access will provide shareholders with a critical mechanism to replace poor directors with better ones. A more-cynical view – expressed by the *Wall Street Journal* and others – is that 3% was chosen as the “sweet spot” for “labor unions and other politically motivated organizations” who will use their leverage over the proxy statement to force companies to support political causes rather than increasing shareholder value.⁴⁸ It will be interesting in the coming years to watch who uses Proxy Access, and why.

⁴⁸ “Alinsky Wins at the SEC,” *Wall Street Journal* (August 30, p. A14).

3. The Transatlantic Pay Divide: Is Europe Catching Up?

3.1. Introduction

While executive compensation has sparked outrage in the United States from time to time since the 1930s, the European situation was much quieter until the mid-1990s. The different experiences on the two continents may in part reflect differences in pay practices: the US practices might simply be more outrageous. Perhaps more importantly, the difference reflects that detailed information on individual executive pay practices including stock options have been generally available in the United States since the 1930s, while similar information has only recently become widely available in Europe. Indeed, there is a curious circular relation between disclosure and outrage: outrage over perceived excesses in executive pay – usually stemming from a relatively isolated event – fuels demand enhanced disclosure, which in turn yields more opportunities to perceive isolated excesses leading to more even more disclosure.

In the United Kingdom, the “isolated event” related to the 1990 privatization of government-owned electric, gas and water utility companies. Executives in these utilities had received options to buy shares at exercise prices initially undervalued by the government, leading to windfall option gains over the next several years. By mid-1992, the Labour Party became angered that executives in the privatized water industry had options worth over £20 million (about €37 mil in 2008-constant Euros⁴⁹) at a time when customers were facing higher water rates.⁵⁰ The controversy intensified in early 1995 when it was revealed that over 100 executives in electric companies were set to gain in aggregate around £40 million (€63 mil in 2008-constant Euros) by cashing in options often ahead of their firms’ initial public offering.⁵¹ Several executives even partially avoided taxes on these gains by transferring shares to their wives.⁵² The outrage over compensation practices in the privatized utilities led

⁴⁹ The historical numbers in this section are calculated somewhat convolutedly by converting into US dollars at the historical exchange rate, adjusting to 2008-constant dollars using the US Consumer Price Index, and converting into Euros using the 2008 year-end exchange rate.

⁵⁰ Ford, “Water chiefs’ £20m shares windfall angers Labour,” *Times* (June 1, 1992), p. T.

⁵¹ White and Milner, “Anger over utility chiefs’ £40m share bonanza,” *Guardian* (May 15, 1995); Calvert and Nelson, “Exposed: the utility chief millionaires,” *Observer* (May 14, 1995).

⁵² Under UK tax laws at the time, option gains were taxed as capital gains when the stock was eventually sold, with a £6000 tax-free allowance, See Barrie, Bates and Cowe, “Fury as National Grid chiefs use loophole to avoid tax on share option profits,” *Guardian* (May 26, 1995), p. 2.

to the influential report by the Greenbury (1995) committee, which called for changes in the tax rules and structure of UK stock options, and significantly expanded disclosure rules for UK executive compensation.

In Germany, the “isolated event” related to UK-based Vodafone’s hostile takeover of German-based Mannesman in 2000, at the time the largest corporate merger ever. On the day before Mannesman and Vodafone announced they had an agreement, Mannesman’s supervisory board (led by Josef Ackermann, the CEO of Deutsche Bank) approved nearly €60 million in bonuses and severance payments to Mannesman’s CEO Klaus Esser and other top executives. In 2003, Ackermann and other members of the supervisory board faced criminal charges for breaching their fiduciary duty by paying the bonuses; Esser – who was the primary beneficiary of the bonuses but did not take part in the decision process – faced conspiracy charges in connection of the bonuses. The presiding judge determined in 2004 that Ackermann’s actions were atrocious but not criminal; prosecutors successful appealed the acquittal and the case was ultimately settled in 2006. However, the trial set off a campaign for more-transparent corporate governance in Germany, including legislation requiring historically secretive companies to disclose more details on their compensation packages.

Plans in France to make stock options more attractive through tax advantages were derailed in late 1999 after Elf’s CEO Philippe Jaffre received a golden-parachute option payout of €30 million following Elf’s acquisition by Totalfina.⁵³ One of the most vocal critics of Jaffre’s golden parachute payment was Vivendi’s CEO Jean-Marie Messier, who chastised Jaffre’s payout in his 2000 autobiography, insisted this his own contract had no such clause, and promised his board that he would never negotiate one.⁵⁴ But Jean-Marie Messier’s world was about to get, well, messier, as he personally added to the flap over executive compensation and excessive severance pay.

Between 1994 and 2002, Messier had transformed a recently privatized water utility into one of the largest media conglomerates in the world through over €70 billion in acquisitions. Once France’s best-known and most-admired businessmen, Messier was criticized after relocating to a €13 million apartment in New York City purchased with

⁵³ Graham, “Fabius sets date for stock option plan,” *Financial Times* (April 26, 2000a), p. 8; Delaney and Wessel, “Lumpy Gravy: Suppose Stock Options Involved More Pain Than Financial Gain – That’s the Case in Europe, Which Helps to Explain High-Tech Lag There – ‘A Bit Perverted’ in France,” *Wall Street Journal* (December 21, 1999b), p. A1.

⁵⁴ Harding and Johnson, “Messier can expect a rough ride over golden parachute exit package,” *Financial Times* (July 4, 2002), p. 25.

corporate funds (following Vivendi's acquisitions of Seagram and Universal).⁵⁵ After a €13.6 billion loss in 2001 (the largest in French corporate history) and a credit downgrade to near-junk status, Messier was pressured to resign from the company on 1 July 2002.⁵⁶ As part of his agreement to leave, Messier reputedly broke his public promise and negotiated a controversial severance package worth €20.6 million, signed on behalf of Vivendi by Messier's close associate and chief operating officer. Reports of the severance pay caused an uproar in France, and Messier's successor at Vivendi ultimately refused to pay it, claiming that the agreement wasn't valid because it hadn't been approved by the full board or by shareholders as required under French law.⁵⁷ Messier sued the company for the severance, which in turn countersued Messier for damages. Finally, as part of a \$51 million (€36 million) civil fraud settlement with the SEC against both Vivendi and Messier, Messier agreed to pay \$1 million of the \$51 million in fines and forgo his severance claim against Vivendi.

In the midst of the public dispute over Messier's severance pay, shareholders and more than 2,000 employees at Alstom – the recently privatized manufacturer of France's high-speed TGV train – held a rally demanding return of the “scandalous” €4.1 severance payments received by ousted CEO Pierre Bilger. Bilger had been removed from his post in March 2003, after being placed under judicial investigation for embezzlement and after his company lost €1.4 billion in the prior year, and 90% of its market value over the prior two years. In August 2003, the French government bailed out the company with a €2.8 billion rescue package in return a 31.5% stake in the company. Less than two weeks later, Bilger yielded to increasing public criticism and returned the €4.1 payment (which had been been fixed in 1999), explaining that he did not want to be the “subject of scandal.”⁵⁸

In Sweden, perceptions of exorbitant pension pay ruined the reputation of Percy Barnevik, who had led the Swiss-Swedish engineering giant ABB from 1988 through 2001. Barnevik's November 2001 pension payment of €60 million sparked not only outrage by lawsuits, and Barnevik was eventually pressured to resign his posts as chairman of Investor (the investment vehicle for Sweden's Wallenberg dynastic) and AstraZeneca. To avoid lengthy litigation, Barnevik agreed to return 60% of his severance pay.

⁵⁵ Carreyrou, “A French CEO's Taste For America Is Hard To Swallow Back Home --- Move to New York Was Faux Pas For Vivendi's Mr. Messier; A Rocker's Hail to the Chief,” *Wall Street Journal* (2002), p. A1.

⁵⁶ Johnson, “Messier under pressure from board to resign,” *Financial Times* (July 1, 2002), p. 1.

⁵⁷ Carreyrou (2003a); Carreyrou, “Vivendi, Messier to Pay \$51 Million to Settle Charges,” *Wall Street Journal* (December 24, 2003b), p. A3.

⁵⁸ Harrison, “Ex-Alstom chief waived severance pay for “honour”,” *Reuters News* (October 22, 2003).

In the Netherlands, controversies erupted over massive overstatements of reserves by Royal Dutch Shell linked to its executive bonus formulas. Under Shell's "balanced scorecard" performance-measurement system, bonuses were paid in part on the basis of increases in reserves. In 2002 and 2003, Shell's internal auditor warned that Shell's booking of reserves did not comply with SEC guidelines, and argued that Shell's bonus system encouraged the inflation of reserves booking.⁵⁹ In January 2004, the stock price of Shell's two parent companies plummeted as Shell slashed its reported oil and natural gas reserves by 20%. Along with the restatement, Shell changed its bonus formula to remove any weight on reserves.

As executive compensation in Europe became more controversial, demand for increased pay disclosures intensified from labor unions, the government, and international investors. The most sweeping new rules were adopted by the United Kingdom following the Greenbury (1995) Report, which equalled and in many cases surpassed US disclosure rules. In particular, the Greenbury Report required companies to list the details of all options held at year end (e.g., quantities, exercise prices, terms); the United States did not require these details until 2006.⁶⁰ The Greenbury report was followed by the Hampel (1998) report which required companies to report changes in the actuarial value of pension benefits, also not part of US disclosure requirements until 2006.

In January 2000, all firms listed on the Irish Stock Exchange were required to reveal details of individual executive pay.⁶¹ But elsewhere in Europe, disclosure reform was uneven. Many large firms throughout the Continent cross-listed on US or UK exchanges began voluntarily reporting compensation details, under the theory that more transparency would attract more US and UK investors. But formally, several countries such as Spain and Italy had no reporting requirements, and reporting was encouraged but not mandatory in France.⁶² While many large French companies complied with the voluntarily guidelines, others (such as PSA Peugeot-Citroen) vowed to never voluntarily disclose their pay. In any

⁵⁹ Cummins, "Shell's Outside Auditors Got Warning on Reserves in 2002," *Wall Street Journal* (July 15, 2004), p. A3.

⁶⁰ Under the 1992 US disclosure rules, companies must report the number and intrinsic value of exercisable and nonexercisable options held at year end, but did not have to report details arising from each tranche of options.

⁶¹ O'Sullivan, "ISE forces companies to reveal pay of directors," *Irish Times* (November 27, 1999), p. 19.

⁶² In spring 2000, the *Mouvement des Entreprises de France* (or MEDEF) – essentially the union of the largest employers – encouraged public companies to voluntarily disclose pay. For details on European disclosure as of September 2000, see Woodruff, "A Vanishing European Taboo: Disclosing Executives Pay --- Goal of Single Market, Pressure Abroad Help; Response Is Unexcited," *Wall Street Journal* (September 11, 2000).

case, there were no specific French disclosure guidelines, and as a result there was substantial dispersion on *how* firms chose to report pay (even among those that chose).

Under rules in effect until 2005, public companies in Germany were required to report only the aggregate cash compensation paid to all management directors; details on individual compensation or on stock options were not required. In 2000, following the Ackermann-Mannesman scandal discussed above, Germany legislators began working on sweeping new pay disclosures that would reveal individual pay packages. However, the landmark German disclosure legislation was not passed until 2005, requiring details on option grants but not option holdings, and also included a loophole to benefit secretive family-owned or closely held corporations: the company would not have to disclose pay details if 75% of the shares vote against such disclosure.⁶³

On 21 May 2003, the Commission of the European Communities issued its report entitled, “Modernizing Company Law and Enhancing Corporate Governance in the European Union - A Plan to Move Forward” (the “Action Plan”). The Action Plan – directed at corporations in the fifteen countries (as of 2003) represented in the European Union⁶⁴ – included four guiding principles:

- Disclosure of compensation policies in annual reports;
- Disclosure of details of remuneration of individual directors in the annual accounts;
- Prior approval by the shareholder meeting of share and share option schemes in which directors participate;
- Proper recognition in the annual accounts of the costs of such schemes for the company;

Member countries were asked to implement the Action Plan by June 2006, either through legislation or best-practice rules based on the “comply or explain” principle: the company should either comply with the guidelines or offer compelling explanations of why they choose not to. Table 3.1 summarizes the compliance with the EU disclosure guidelines as of June 2009, based on information from RiskMetrics (2009) and EU Commission (2007). In practice, most large publicly listed European countries complied with the

⁶³ See Simensen, “Debate Over Remuneration Has Led To Changes In German Corporate Governance,” *Financial Times* (October 23, 2006), p. 23; “Germany’s pay law: Disclosure is right - but anti-business rhetoric is futile,” *Financial Times* (May 20, 2005), p. 18.

⁶⁴ The fifteen country-members of the European Union as of May 2003 were Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

Table 3.1 Compliance with Action Plan as of June 2009

Country	Disclosure of Compensation Policies	Disclosure of Compensation for Individual Executives	Detailed Individual Disclosure of Stock Options	Countries with 2008 CEO BoardEx Pay Data	
				Number of Firms	% of Mkt Cap
Austria	yes		²	4	22.4%
Belgium	yes	yes	yes	36	56.0%
Denmark	yes	yes	yes	8	37.2%
France	yes	yes	yes	218	77.8%
Germany	yes	yes ¹	yes ¹	125	78.5%
Greece		²		4	12.1%
Ireland	yes	yes	yes	56	98.8%
Italy	yes	yes	yes	83	85.1%
Luxembourg	yes	²	²	5	18.4%
Netherlands	yes	yes	yes	84	75.7%
Portugal	yes	yes		5	28.5%
Spain	yes	yes		31	66.3%
Sweden	yes	yes	yes	74	69.0%
United Kingdom	yes	yes	yes	1180	91.4%

Note: The table shows results for the 15 countries with EU membership as of the 2003 Action Plan, based on data from RiskMetrics (2009) and EU Commission (2007). Some countries have different rules for different individuals (e.g., executives vs. non-executive board members, or chief executives vs. other executives). The information in the table reflects required disclosures for the CEO.

¹Under German law, individual disclosure is not mandated if 75% of the shares vote against disclosure.

²Disclosures required on an aggregate basis (not for individual executives).

recommendations of the 2003 Action Plan by 2005 or 2006, regardless of whether compliance for mandated by their particular jurisdiction. Among the last holdouts was Germany; prior to passing its own mandatory rules in 2005, only 9 of the top 30 firms voluntarily disclosed their compensation.⁶⁵

The second-to-last column in Table 3.1 summarizes the number of companies in each country with full CEO compensation information as collected and reported in Management Diagnostics Limited's BoardEx database (our primary source of compensation data analyzed in the next section). The final column shows the aggregate market capitalization of the companies with individual compensation available in BoardEx (which is a lower bound on companies disclosing individual compensation information) as a percentage of the total market capitalization of all publicly traded companies in each country (based on Datastream aggregates). Not surprisingly, the observations are concentrating in countries that have

⁶⁵ "Keeping stumm - Executive pay in Germany," *Economist* (August 21, 2004), p. 372.

adopted EU disclosure recommendations, or (like the United Kingdom) have adopted even more stringent disclosure rules. In particular, the companies followed by BoardEx account for over 80% of market capitalization in countries with full individual disclosure (including options), but less than 25% of the market capitalization for the European countries without full disclosure.

In this Section, we use data emerging from the recent EU disclosure rules to conduct a comprehensive cross-country analysis of executive compensation in Europe, and contrast European pay levels and practices with those in the US. We begin by describing the level and composition of European CEO pay in 2008, focusing on the how pay varies with both company size and industry. Next, we document the US “Pay Premium,” showing that US CEOs received about double the pay of their European counterparts in 2008, even after controlling for company size and industry.

3.2. Executive Compensation in Europe (versus the United States)

Prior research on European versus US differences in executive pay have been hampered by a lack of consistent and detailed data for individual CEOs. As a result, most research prior to the 2003 EU disclosure rules (or the earlier UK rules) focused in large part on average cash compensation for a group of executives. For example, Conyon and Schwalbach (2000)‘s comparison of UK and German compensation from 1968-1994 focused on only cash compensation for the UK (because the study predated the Greenbury (1995) recommendations on disclosing stock options) and average cash compensation for Germany (because German rules required only disclosing the total cash paid across the group of top managers). Similarly, Muslu (2008)‘s study of the largest 158 European companies from 1999-2004 (based on hand-collected annual reports) presents a mixture of individual and aggregated compensation data. More recently, Bryan, Nash and Patel (2006) relied on SEC Form 20-F filings from 1994-2004 for foreign companies cross listing in the United States. However, cross-listed companies are only required to disclose compensation for individual executives if such disclosure is required in the home country, and as a result most of their analysis was based on average compensation for the management group.

Another branch of research on international pay – notably Abowd and Bognanno (1995), Abowd and Kaplan (1999), Murphy (1999), and Thomas (2008) – relied on Towers Perrin’s biennial *Worldwide Total Remuneration* reports. These are not based on “data” per

se, but rather depict the consulting company's estimates of "typical" or "competitive" pay for a representative CEO in an industrial company with an assumed amount in annual revenues, based on questionnaires sent to consultants in each country.⁶⁶ While these reports have provided valuable information about cross-country pay differences, they are not useful (for example) in understanding how pay varies with (for example) company size, industry, governance, or managerial characteristics.

The enhanced disclosure rules in Europe finally make it possible to conduct comprehensive cross-country analyses of executive compensation based on individual CEOs and including equity and option grants. Conyon and Murphy (2000) were among the first to conduct such a study, analyzing the differences in UK and US practices in 1997 (following the implementation of the Greenbury (1995) recommendations). More recently, Fernandes, et al. (2010) were among the first to exploit the increasingly favorable disclosure environment in their analysis of 2006 CEO compensation in 14 countries (including 10 European countries) with mandated pay disclosure.

The evolving international evidence on executive compensation – particularly those based on the Towers Perrin reports or the new disclosure environments – have consistently concluded that US CEOs are paid significantly more than their foreign counterparts after controlling for company size, industry, and a variety of other firm and managerial characteristics. Moreover, US executives receive a greater share of their compensation in the form of stock options, restricted shares and performance-based bonuses. We begin our analysis of European compensation by replicating these stylized facts, and then turn to explaining them.

3.2.1. The Data

Our data source for European CEO pay data is "BoardEx," compiled by the UK-based firm Management Diagnostics Limited. BoardEx is the leading database on board composition of publicly listed firms, and includes detailed biographic information on individual executives and board members in nearly 50 countries (including countries that do not have mandatory disclosure requirements for executive compensation). We restrict our

⁶⁶ The amount of annual revenues increased with inflation over time, but was generally in the range of US \$250 million - \$500 million).

analysis to the individual identified by BoardEx as the highest-ranking executive in each firm, and use the term “CEO” to describe this executive, regardless of whether the firm uses “chief executive officer” or some other designation (such as “managing director” or “executive chairman”). In addition to providing biographic information, BoardEx also includes detailed compensation data for top executives – including salaries, other pay, bonuses, payouts under long-term plans, option grants, and share grants.

We focus on the eight countries in Table 3.1 that had codes or laws requiring the disclosure of cash and share-based compensation for individual executives: Belgium, France, Germany, Ireland, Italy, Netherlands, Sweden, and the United Kingdom.⁶⁷ In addition, we include Switzerland, which while not a member of the European Union nonetheless adopted EU-style disclosure rules.⁶⁸ For our US comparisons, we rely on Standard and Poor’s ExecuComp database, as we did in Section 2. However, while we restricted our analysis in Section 2 to the S&P 500 (essentially the 500 largest firms ranked by market capitalization), we now employ the entire ExecuComp database, which also includes firms in the S&P MidCap 400, and S&P SmallCap 600, additional firms that ExecuComp continues to follow even after dropping out of one of their major indices.

Two aspects of BoardEx’s compensation calculation deserve special mention. First, instead of providing grant-date values for stock option grants (as in ExecuComp for our US firms), BoardEx computes the value of options granted using the closing stock price on the last trading day of the fiscal year rather than the stock price on the grant date. Since world stock prices declined at the end of 2008, valuing options using fiscal year-end stock prices (a la BoardEx) produces a slightly lower value than using grant-date prices (a la ExecuComp). Second, for performance share plans (in which the number of restricted shares awarded is based on realized performance), BoardEx computes the value based on the maximum (rather than the target or minimum) shares that can be awarded under the plan, again multiplied by the end-of-fiscal-year closing stock price. Using the maximum shares rather than the target shares will obviously overstate the value of performance shares, while valuing them at the end of the 2008 fiscal year (given the year-end decline in stock prices) will understate the value of the shares relative to their grant-date value.

⁶⁷ Although Denmark also imposes full pay disclosure, we drop Danish data from our subsequent analysis, since (after imposing a minimum firm size threshold) there are too few publicly traded Danish firms to provide meaningful country-level results.

⁶⁸ Under Swiss regulations, companies must disclose the pay for the “highest-paid executive” who might not be the CEO; we assume that the “highest-paid executive” is the CEO, creating a potential upward bias in our Swiss data.

Table 3.2 Summary Statistics the Level and Structure of 2008 CEO Compensation, by Country

Group	Sample Firms	Total Pay		Average Composition of Total Pay			
		Average (€000s)	Median (€000s)	Base Salary	All Bonuses	Equity Pay	Other Pay
Belgium	28	€1,328	€884	64%	20%	6%	10%
France	156	1,522	822	60%	21%	15%	4%
Germany	80	2,606	1,739	39%	42%	9%	11%
Ireland	23	2,585	1,375	54%	9%	23%	15%
Italy	46	2,717	2,183	53%	19%	13%	15%
Netherlands	60	1,526	1,166	49%	21%	17%	13%
Sweden	51	1,273	1,055	61%	16%	1%	22%
Switzerland	29	3,636	1,336	57%	17%	12%	14%
United Kingdom	419	2,016	1,183	46%	18%	28%	9%
All Europe	892	1,989	1,200	50%	21%	19%	10%
United States	1,426	3,784	2,414	29%	20%	46%	6%

Note: European data from Boardex and US data from ExecuComp exclude firms with less than €100m in 2008 revenues. CEOs in their first year are excluded. Total compensation defined as the sum of salaries, bonuses, benefits, and grant-date values for stock options, restricted stock, and performance shares. US dollar-denominated data are converted to Euros using the 2008 year-end exchange rate (€1 = \$1.3919).

Table 3.2 reports the level and composition of 2008 CEO total compensation, by country and for Europe collectively. We restrict our analysis to companies with annual revenues in excess of €100 million to reduce the impact of BoardEx's over-sampling of small UK firms. In addition, we exclude CEOs serving in their first year to avoid data anomalies reflecting compensation for multiple positions for CEOs promoted internally, and partial-year compensation and signing bonuses or grants for CEOs hired from outside. After these exclusions, our sample includes 892 European and 1,426 US firms. Total pay is defined as the sum of salaries, bonuses, benefits, and the value of stock options and other shares granted to executives during the 2008 fiscal year. European data are as reported by BoardEx (and subject to the qualifications discussed above), while US data are as reported in ExecuComp and discussed in detail in Section 2. The average and median pay for our US sample (€3.8 mil and €2.4 mil, respectively) are considerable smaller than the corresponding numbers in Figure 2.1 (€7.3 mil and €5.4 mil, respectively), reflecting the fact that Figure 2.1 was based only on the largest 500 firms (i.e., the S&P 500 index) while Table 3.2 is based on a much broader sample (i.e., the S&P 500, S&P MidCap 400, and S&P SmallCap 600 indices). Nonetheless, Table 3.2 shows that average and median pay for US

CEOs are more than double the average and median pay for European CEOs (€2.0 mil and €1.2 mil, respectively).

The right-hand portion of Table 3.2 describes the average composition of CEO pay in the ten countries. On average, CEOs in Europe receive 50% of their total pay in the form of base salaries, 20% in bonuses and 19% in equity-based pay (including stock options, restricted stock and performance shares). In contrast, salaries account for a much smaller portion – and stock and options a much larger portion – of the pay for US CEOs.

3.2.2. The Level and Composition of Pay, by Size and Industry

Within the European sample, Table 3.2 suggests that the group of countries with the highest average and median pay include Germany, Ireland, Italy, Switzerland, and the UK. However, before taking the results in Table 3.2 too seriously, we need to take into account differences in company sizes across countries (especially since the sampling by BoardEx is not random, as indicated by the over-sampling of smaller British firms in Table 3.2 even after imposing the €100 mil revenue floor).

Table 3.3 shows the distribution of 2008 revenues (in €billions) for our 2,318 sample firms. In interpreting the differences in the US and European firm sizes, it is instructive to note that the nine European countries in our sample have a total population of 319 million (2010 est.) and total gross domestic product of €9.1 trillion (2009 estimate by the International Monetary Fund). In comparison, the United States has a slightly smaller population (309 million) and nearly identical GDP (€10.2 trillion). Therefore, the overall economies of the United States and of our 9-country representation of Europe are quite similar, and yet (as suggested by Table 3.3), the organization of economic activities is quite different. In particular, the median revenues of the 1,426 US firms are 26% higher than the median for Europe, while the *average* revenue is 35% *higher* in Europe. The implication is that, while the United States has more large firms, the largest firms were concentrated in Europe. For example, while the size of the 75th percentile firm is nearly identical in the two continents, 30 of the 50 largest firms (ranked by 2008 revenues) are headquartered in Europe.

Table 3.3 Distribution of 2008 Revenues for Sample Firms (€bil), by Country

Country	Mean	Percentiles			Estimated Pay-Size Elasticity
		25th	50th	75th	
Belgium	€ 3.6	€ 0.33	€ 0.78	€ 3.40	0.209**
France	8.8	0.48	1.23	6.72	0.412***
Germany	15.7	0.59	2.02	12.43	0.333***
Ireland	3.3	0.21	1.76	4.24	0.451***
Italy	11.5	0.82	2.12	6.83	0.424***
Netherlands	6.7	0.44	1.45	3.79	0.243***
Sweden	3.8	0.26	1.42	5.30	0.346***
Switzerland	10.6	0.79	2.09	8.47	0.416*
United Kingdom	4.0	0.19	0.48	1.78	0.398***
All Europe	6.6	0.28	0.89	3.44	0.348***
United States	4.9	0.47	1.12	3.45	0.377***

Note: The figure reports the distribution for company revenues (in €bil) for the firms in Table 3.2. The pay-size elasticity is defined as the estimated coefficient on Ln(Lag Sales) in a regression of Ln(CEO Pay) on Ln(Lag Sales) and 12 industry dummy variables. The number of companies for each country is the same as Table 3.2.

*,**,*** indicates that the pay-size elasticity is significantly different from zero at the 10%, 5% and 1% levels, respectively.

The best-documented empirical finding in the executive compensation literature is the relation between CEO pay and company size, typically measured as the elasticity of compensation to company revenues. Nearly two decades ago, Rosen (1992) summarized academic research covering a variety of industries and a variety of time periods in both the US and the Europe, and observed a consistent empirical elasticity of around 0.3, implying that doubling compensation increases pay by about a third. Even though there is some variation in wage-size elasticities, his general conclusion is that the “relative uniformity [of estimates] across firms, industries, countries, and periods of time is notable and puzzling because the technology that sustains control and scale should vary across these disparate units of comparison.” The final column of Table 3.3 replicates these earlier findings for our 2008 CEO pay data, with pay-size elasticities η estimated from the regression:

$$\text{Ln}(2008 \text{ CEO Pay}) = \alpha + \eta \text{Ln}(2007 \text{ Sales}) + \beta'(\text{Industry}),$$

Table 3.4 Summary Statistics for 2008 CEO Total Compensation, by Company Size

Group	Sample Firms	Total Pay		Average Composition of Total Pay			
		Average (€000s)	Median (€000s)	Base Salary	All Bonuses	Equity Pay	Other Pay
EUROPE	892	€ 1,989	€ 1,200	50%	21%	19%	10%
<i>Firm Sales (€bil)</i>							
Less than €0.35	206	801	613	59%	15%	16%	11%
€0.35 to €1.0	198	1,069	823	56%	18%	16%	10%
€1.0 to €4.0	242	1,932	1,380	46%	25%	20%	9%
Above €4.0	246	3,779	2,598	42%	22%	25%	11%
UNITED STATES	1,426	3,784	2,414	29%	20%	46%	6%
<i>Firm Sales (€bil)</i>							
Less than €0.35	187	1,391	977	37%	19%	38%	5%
€0.35 to €1.0	337	1,912	1,446	36%	19%	40%	6%
€1.0 to €4.0	491	3,319	2,716	29%	20%	46%	6%
Above €4.0	411	6,963	5,233	19%	21%	54%	6%

Note: European data from Boardex and US data from ExecuComp exclude firms with less than €100m in revenues. Total compensation defined as the sum of salaries, bonuses, benefits, and grant-date values for stock options, restricted stock, and performance shares. US dollar-denominated data are converted to Euros using the 2008 year-end exchange rate (€1 = \$1.3919). The average (and median) results for all firms in Europe and in the United States are reported in Table 3.2.

where Industry is a set of twelve industry dummy variables based on Fama-French definitions.⁶⁹ The pay-size elasticity is positive and highly statistically significant in all countries except for Belgium and Switzerland. The overall elasticity for Europe (.348) is slightly (and statistically insignificantly) smaller than that for the United States (.377), but nonetheless highlights the importance of controlling for firm size in comparing CEO pay across countries and companies.

Table 3.4 provides summary statistics for the level and composition of fiscal 2008 CEO pay by company size and continent. As reported in the top panel, the average and median levels of total compensation increase monotonically with firm size on both continents: the median pay for European companies with 2008 revenues in excess of €4 billion is €2.6 million, far larger than the €613,000 median pay for companies with revenues below €350 million. The bottom panel shows that American CEOs earn substantially more than their European counterparts, for every size and industry group. The US premium is especially

⁶⁹ We use 12 industry portfolios of Fama-French (Consumer Non-Durables, Consumer Durables, Manufacturing, Energy, Chemicals, Business Equipment, Telecom, Utilities, Shops, Healthcare, Money & Finance, Other). The mapping between 4-digit SIC codes and the 12 industries are available in Ken French's website: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_12_ind_port.html.

Table 3.5 Summary Statistics for Components of 2008 CEO Pay, by Company Size

Group	Base Salary	Annual Bonus Received		Value of Option Grant		Value of Stock Grants	
	Median (€000s)	% with Bonus	Median (for >€0)	% with Grants	Median (for >€0)	% with Grants	Median (for >€0)
EUROPE	€530	70%	€382	16%	€78	47%	€467
<i>Firm Sales (€bil)</i>							
Less than €.35	347	60%	€163	13%	€63	40%	€212
€.35 to €1.0	429	68%	230	14%	52	41%	326
€1.0 to €4.0	571	79%	450	15%	114	50%	521
Above €4.0	965	72%	804	21%	403	54%	1,086
UNITED STATES	€557	76%	€582	49%	€1,604	72%	€1,700
<i>Firm Sales (€bil)</i>							
Less than €.35	330	78%	259	26%	507	44%	467
€.35 to €1.0	431	72%	358	36%	744	57%	818
€1.0 to €4.0	586	78%	636	53%	1,412	80%	1,716
Above €4.0	759	77%	1,264	66%	2,923	87%	3,502

Note: Median data for bonuses, options, and stock represent the median value of award/grant (in €000s) for the subsample of CEOs actually receiving awards/grants during the 2008 fiscal year. US dollar-denominated data are converted to Euros using the 2008 year-end exchange rate (€1 = \$1.3919).

pronounced for large firms (where the median US CEO earns 100% more). The right-hand portion of Table 3.4 describes the average composition of CEO pay in the two continents. The divergence in equity-based pay between European and US pay practices is, again, especially pronounced for companies with revenues exceeding €4 billion. Within this group, salaries account for 42% of pay for European CEOs, but account for only one-fifth of pay for US CEOs. Similarly, equity-based pay accounts for 54% of pay for CEOs in large US firms, but only account for 25% of pay in the largest European firms.

Table 3.5 compares base salaries and the prevalence of contingent-pay practices in the two continents. Median base salaries for CEOs are fairly similar on both sides of the Atlantic, and the percentage of CEOs receiving bonuses in 2008 was only slightly higher in the United States. However, conditional on receiving a bonus, US bonuses are much higher: the median bonus paid in the US of €582,000 is 52% higher than the median bonus paid in Europe. American CEOs are more likely to receive option grants than their European counterparts (49% in the United States versus only 16% in Europe). In addition, they are likely to receive much larger grants: the median option grant in the US (for CEOs receiving options) of €1,604 is *twenty times* the median grant value for European CEOs (who receive only €78,000). Finally, Table 3.5 shows that 47% of European CEOs receive restricted stock or

Table 3.6 CEO Wealth in Company Stock and Options in 2006 and 2008, by Country

Country	Firms (2008)	Median CEO Wealth in Stock and Options (€mil)		Median Ratio of CEO Wealth to Salary and Bonus		Median Ratio of CEO Wealth to Market Value	
		2006	2008	2006	2008	2006	2008
Belgium	7	€ 0.7	€ 0.3	0.9	0.4	0.15%	0.02%
France	114	3.6	1.9	3.8	2.1	0.15%	0.05%
Germany	37	1.8	1.8	0.9	1.6	0.07%	0.09%
Ireland	22	8.9	7.8	9.4	11.0	0.73%	0.62%
Italy	37	4.7	1.4	3.2	0.7	0.14%	0.03%
Netherlands	53	2.7	1.4	2.7	1.5	0.13%	0.09%
Sweden	45	0.7	0.5	1.0	0.7	0.08%	0.02%
Switzerland	24	3.4	5.0	2.2	4.8	0.07%	0.06%
United Kingdom	411	5.0	2.8	5.1	3.4	0.83%	0.43%
All Europe	750	4.1	2.4	4.4	2.6	0.42%	0.20%
United States	1,421	12.4	5.2	9.7	4.7	0.73%	0.26%

Note: CEO Wealth is defined as the fiscal year-end value of the CEO's stock and restricted stock, plus the year-end intrinsic value of stock options. Sample includes all companies from Table 3.2 where there are sufficient data to calculate year-end portfolios. European data are from BoardEx; US data (including Black-Scholes values) are calculated by us based on year-end option holdings. Market Value is the year-end market value of the firm's equity. CEOs with zero holdings of stock and options (likely reflecting unavailable data) are excluded. Monetary amounts are in 2008-constant Euros; US dollar-denominated data are converted to Euros using the 2008 year-end exchange rate (€1 = \$1.3919).

performance shares, while 72% of US CEOs receive similar grants. The value of the grant (for those receiving grants) is much higher in the US (€1,700,000 vs €467,000).

3.2.3. Pay-Performance Relations

Table 3.6 presents estimates of "CEO Wealth," defined as the value of shares owned by the CEO at the end of the fiscal year, plus the year-end "intrinsic value" of option holdings (i.e., the spread between the market and exercise price for all in-the-money options). Table 3.6 shows the median CEO Wealth expressed in euros and also as a fraction of cash compensation (salary and short- and long-term bonuses) and the company's market value of equity. Since the stock-market crash in late 2008 substantially impacted CEO Wealth (especially the value of stock options), we show CEO Wealth both pre-crash (2006) and mid-crash (2008). We provide results by country, and for Europe taken as a whole.

As shown in Table 3.6, the median European CEO held €2.4 million in stock and options at the end of 2008, down from €4.1 million two years earlier. In comparison, the median US CEO held €5.2 million in stock and options at the end of 2008, down from €12.4 million in 2006. Expressed as a ratio of cash compensation, the median European CEO held stock and options worth about 4.4 times cash pay in 2006, and 2.6 times cash pay in 2008, while the corresponding ratios for US CEOs was 9.7 and 4.7. Finally, expressed as a percentage of the market value of outstanding equity, the median European CEO's wealth was .42% and .20% in 2006 and 2008, respectively, compared to .73% and .26% for US executives over the same time period.

In addition to equity-based incentives to improve company share prices, CEOs on both continents also receive performance-based bonuses that reward improvements in accounting or financial results. Prior research for US CEOs has shown that most of the year-to-year variation in CEO wealth reflects changes in the value of his portfolio of stock and options and not from annual bonuses. However, given the relative absence of direct incentives through stock and option ownership in Continental Europe, we now to investigate the extent to which European firms substitute cash-based incentives for stock-based incentives.

Following Murphy (1985) and Coughlan and Schmidt (1985), we estimate “pay-performance elasticities” for CEO bonuses by estimating the percentage change in CEO compensation associated with percentage change in shareholder wealth, as follows:

$$\Delta \ln(\text{CEO Cash Compensation})_{it} = \alpha + \beta_1 \Delta \ln(\text{Shareholder Value})_{it},$$

where $\Delta \ln(\text{Cash Compensation})_{it}$ is the continuously compounded percentage change in CEO cash compensation (base salary plus bonuses) and $\Delta \ln(\text{Shareholder Value}) = \ln(1 + \text{Shareholder Return})$ is the continuously compounded shareholder return (including dividends). We also estimate the pay-performance elasticity with respect to firm revenues:

$$\Delta \ln(\text{CEO Cash Compensation})_{it} = \alpha + \beta_2 \Delta \ln(\text{Firm Revenues})_{it},$$

and estimate the relation between percentages changes in CEO pay and the change in the firms' accounting return on assets:

$$\Delta \ln(\text{CEO Cash Compensation})_{it} = \alpha + \beta_3 \Delta \text{ROA}_{it},$$

Table 3.7 Estimated Pay-Performance Elasticities for Shareholder Return, Accounting Return on Assets, and Sales Growth, by Country

Country	CEO-Years	Pay-Performance Elasticities based on separate regressions for each performance measure			Pay-Performance Elasticities based on a single regression including all three performance measures		
		Stock Return	Sales Growth	Change in ROA	Stock Return	Sales Growth	Change in ROA
Belgium	62	0.432	-0.623	2.664*	0.251	-0.684	2.776**
France	643	0.111	0.151	1.045***	0.074	0.188	1.025***
Germany	213	0.314**	0.590***	2.136**	0.265**	0.600***	1.498*
Ireland	131	0.061	0.313***	0.364	0.045	0.323***	0.462
Italy	188	0.266	-0.121	-1.51	0.247	-0.245	-1.711
Netherlands	279	0.12	0.225**	0.414	0.122	0.226**	0.347
Sweden	243	-0.107	0.448***	0.507	-0.193	0.464***	0.272
Switzerland	53	0.422**	0.345	3.063**	0.350*	0.299	2.590*
United Kingdom	2,082	0.096***	0.137***	0.641***	0.068**	0.134***	0.619***
All Europe	3,894	0.117***	0.067	0.651***	0.100***	0.046	0.602***
United States	6,596	0.405***	0.363***	0.784***	0.358***	0.203***	0.506***

Note: Data are based on first-differences from 2003-2008. Pay-Performance elasticities are calculated from a regression of $\Delta \ln(\text{CEO Pay})$ on one or all three performance measures; regressions include additional controls for industry (12 dummy variables based on Fama-French industries) and year (dummy variables for 2005 through 2008). For the purposes of these regressions, $(\text{Stock Return})_t$ is defined as $\ln(1+\text{Shareholder Return})$ for period t ; ΔROA is defined as the year-over-year change in ROA (defined as net income before extraordinary items plus interest divided by average assets over the year); and sales growth is defined as $\Delta \ln(\text{Sales})_t$. Monetary data are converted to 2008-constant US dollars, adjusted for inflation, and then converted to Euros using the 2008 year-end exchange rate ($\text{€}1 = \$1.3919$).

*, **, *** indicates that the pay-performance elasticity is significantly different from zero at the 10%, 5% and 1% levels, respectively.

where the return on assets is defined as (Net Income before extraordinary items plus interest paid) divided by the book value of assets.⁷⁰

Table 3.7 shows our estimated pay-performance elasticities based on 2003-2008 time-series data. Change in (the logarithm of) cash compensation are computed only if the same CEO is in office in both years; all data are in euros and adjusted for inflation. All regressions

⁷⁰ For expositional symmetry, we will refer to β_3 as the “elasticity of CEO pay with respect to return on assets,” even though it does not have the usual interpretation as an elasticity (i.e. the percentage change in one quantity with respect to a percentage change in another quantity). Also, we use ΔROA rather than ROA because accounting earnings follow an approximate random walk such that shareholder returns are most comparable to the changes rather than the levels of ROA.

include industry controls and year dummy variables for 2005 and 2008. The first columns show the country and the number of CEO-years of pay-changes used in the regressions. The middle panel provides results when based on separate regressions for each performance measure, while the right-hand panel includes all three performance measures (stock return, sales growth, and changes in ROA) in one regression.

The results from both the separate regressions in the middle panel of Table 3.7 and the combined regressions in the right panel suggest significant differences in cash-based incentives across Europe and the United States. In Belgium and France, for example, changes in cash compensation are positively related to ROA changes, but not to shareholder returns or sales growth. In Ireland, the Netherlands, and Sweden, cash compensation are positively related to sales growth but not shareholder returns or ROA changes; bonuses for Swiss CEOs increase with shareholder returns and ROA changes, but not sales growth. The bonuses for German, British, and US CEOs increase with all three performance measures. At the other extreme, bonuses for Italian CEOs are not significantly related to any of the three performance measures.

Pay-performance elasticities for European CEOs, taken collectively, are systematically lower than for US CEOs. Based on the separate regressions in the middle panel of Table 3.7, for example, increasing shareholder value by 10% corresponds to an increase in cash compensation of about 4.1% in the United States, but only 1.2% in Europe. Similarly, each 10% growth in sales corresponds to an increase of 3.6% in cash compensation for US CEOs, and (an insignificant) 0.7% for European CEOs. Pay-ROA elasticities are similar across the continents: changing the ROA by 0.1 corresponds to 7.8% and 6.5% increases in pay for US CEOs and European CEOs, respectively.

Implicit in the pay-performance regression in Table 3.7 is the assumption that bonuses reflect contemporaneous performance (for example, the effect of 2007 performance is assumed to be reflected in the 2007 bonus). Under SEC rules in the United States, bonuses are reported for the year bonuses are earned, and not when they are paid. For example, the bonus for 2007 may have been paid in early 2008 after the audited financial results are finalized, but that bonus is reported as 2007 and not 2008.⁷¹ Therefore, the assumption is valid in the United States, but not be valid (or uniform) across Europe. To address this

⁷¹ There is asymmetry in how cash bonuses and equity-based pay are treated in the United States: bonuses are reported in the year earned, while stock is reported in the year granted. For example, Goldman Sachs routinely pays a portion of bonuses in cash and a portion in stock and options. The cash portion of the bonus paid in early fiscal 2007 for fiscal 2006 performance would be recorded (per SEC rules) as 2006 compensation, while the stock and option portion of the same bonus would be treated by the SEC as 2007 compensation.

measurement issue, we re-estimated the regressions underlying Table 3.7 using lagged instead of contemporaneous performance measures, and also after including *both* contemporaneous and lagged variables. We found that the coefficients on the lagged performance variables were almost never significant, and did not change any of our conclusions based on Table 3.7.

Another concern related to the results in Table 3.7 is that they include the mid-crash year 2008 and may not be indicative of long-run performance. For example, in the United States several firms with formula-based bonus plans switched to discretionary payouts in 2009 (for 2008 performance) because the formula-based payouts were deemed insufficient. We partially control for this issue in Table 3.7 by including a dummy variable for 2008. In addition, we re-estimated Table 3.7 after excluding data from the 2008 fiscal year, and obtained similar results.

In their investigation of CEO incentives based on 1974-1986 data from US CEOs, Jensen and Murphy (1990) concluded that US CEOs were paid like bureaucrats: CEOs had low holdings of stock and options, and their bonuses varied little with performance (indeed, varied little at all regardless of performance). Subsequent research using later data – including Hall and Liebman (1998) and Frydman and Jenter (2010) – indicate that US CEOs are no longer paid like bureaucrats (if indeed, they ever were): by almost any measure, pay-performance sensitivities have increased dramatically through the growing use of equity-based compensation.

In contrast, our results here suggest that European CEOs – taken collectively – are, indeed still paid like bureaucrats. On average, these CEOs:

- receive most of their compensation in the form of base salaries;
- receive three-fourths of their compensation in salaries and bonuses, but bonuses do not appear to vary with shareholder return, accounting performance, or sales growth;
- receive less than 12% of their pay in the form of stock or options;
- hold relatively little stock relative to their cash compensation or firm value.

Overall, we find evidence of strong pay-performance sensitivities in the United Kingdom, although they still lag considerably behind their US counterparts; we also find surprising high levels of stock ownership in our sample of Irish CEOs. In addition, we find some evidence that bonuses vary with performance for German CEOs. But, for the rest of

Europe, we find little systematic evidence that executives on average have incentives aligned with the interest of company shareholders.

3.3. *The Transatlantic Pay Divide*⁷²

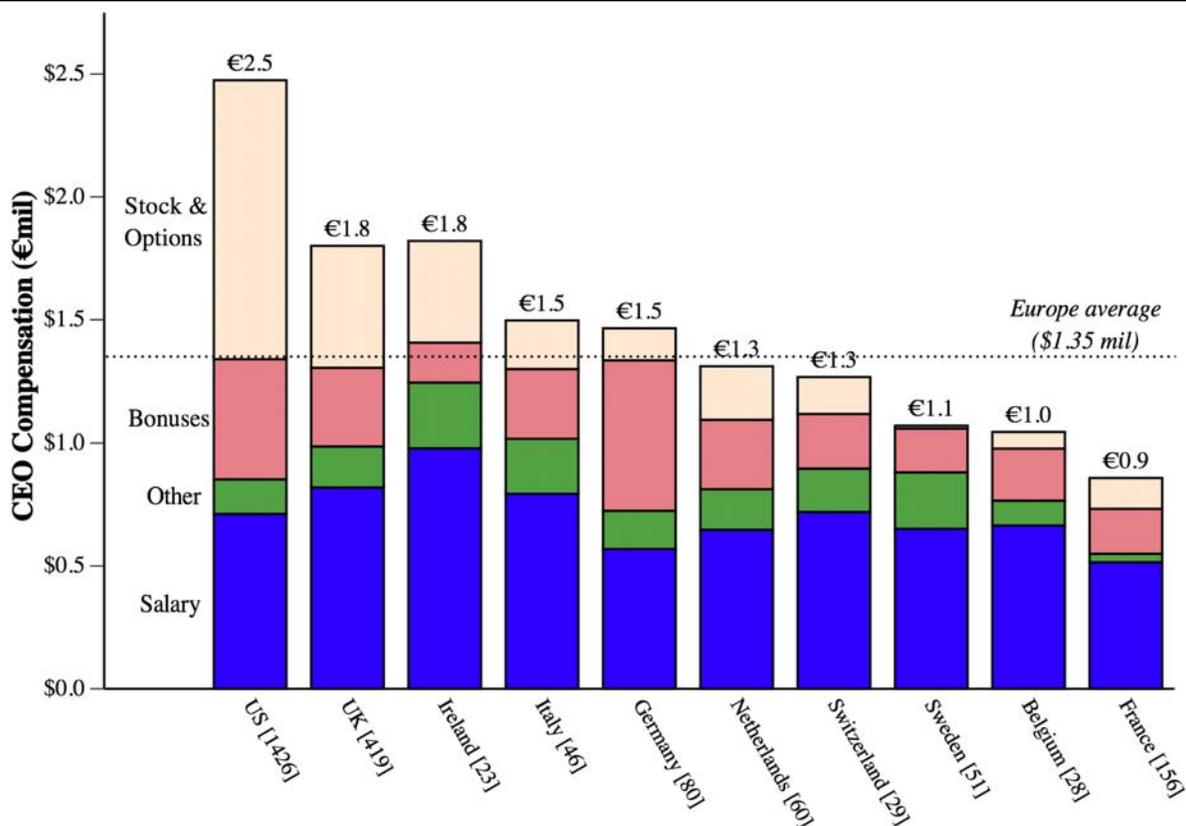
The summary statistics in Table 3.2 suggest that US CEOs receive about double the pay of their foreign counterparts, but this calculation does not control for industry and especially firm size, long documented to be the most important determinant of the level of executive compensation (Baker et al. (1988); Kostiuk (1990); and Murphy (1999)). To analyze cross-country differences in CEO pay after adjusting for size and industry, we regress the logarithm of 2008 Total Compensation on 10 country dummies, the logarithm of prior-year (fiscal 2007) Sales in Euros, and 12 industry dummies.⁷³ We then take a hypothetical firm with €1 billion sales in an “average” industry (formed by multiplying each estimated industry dummy variable by the proportion of our sample firms in each industry) and estimate the average CEO total pay for each country using the estimated coefficients on the 10 country dummy variables. This estimate for a hypothetical mid-sized firm is similar in spirit to the Towers Perrin’s estimates used in Abowd and Bognanno (1995) and Abowd and Kaplan (1999), although those estimates reflect the judgment of consultants and not actual data.

Figure 3.1 shows the size- and industry-adjusted total pay per country. Countries are sorted in descending order in terms of total estimated pay. US CEOs come at the top, with a CEO of a US company with €1 billion in sales predicted to earn a total compensation of €2.5 million annually in 2008. This is substantially more than what CEOs of similar firms located in other countries earn. The highest-paid European countries are the United Kingdom and Ireland (#2 and #3 at €1.8 million), followed by Italy and Germany (€1.5 million). The weighted average of the nine European countries in Figure 3.1 is €1.35 million, suggesting a US pay premium of 92% (for a firm with €1 billion in sales).

⁷² This sub-section draws heavily from Fernandes, et al. (2010).

⁷³ We use 12 industry portfolios of Fama-French (Consumer Non-Durables, Consumer Durables, Manufacturing, Energy, Chemicals, Business Equipment, Telecom, Utilities, Shops, Healthcare, Money & Finance, Other). The main findings in this section are robust if we use two-digit SICs.

Figure 3.1 2008 CEO Pay in the United States and 9 European Countries after controlling for Sales and Industry



Note: The figure compares 2008 CEO pay (in €mil) in each country controlling for firm size (sales) and industry. We regress the logarithm of total compensation on the logarithm of sales and 11 industry and 10 country dummies. For each country, we estimate the pay for a CEO running a hypothetical firm with \$1 billion sales using the estimated coefficient for pay-size sensitivity and that country's dummy variable for a CEO in the largest industry group (manufacturing, energy, and utilities). Countries are sorted in descending order in terms of total estimated pay.

In our related study of 2006 CEO pay across 14 countries (Fernandes, et al. (2010)), we find that much of the US Pay Premium can be explained by firm characteristics empirically known to affect the level of CEO pay (at least in US studies); ownership characteristics known to be systematically different in US versus non-US firms; and board characteristics also systematically different in US versus non-US firms. Replicating their methodology (but for 2008 instead of 2006, and for a smaller set of countries), we estimate the following cross-sectional regression on 2008 pay levels:

$$\begin{aligned} \text{Log (Total Pay)}_i = & \alpha + \beta_1 (\text{US Dummy}) + \beta_2 (\text{Firm Characteristics}_i) \\ & + \beta_3 (\text{Industry dummies}) + \varepsilon_i \end{aligned}$$

Our main variable of interest is the “US Dummy,” which evaluates the pay-level differential of US-based top executives over those from other countries. The OLS regression includes

industry fixed effects, and standard errors are clustered at the country level to take into account the fact that residuals may not be independent within a country.

Column (1) of Table 3.8 reports the results from estimating the regression controlling only for industry and prior-year sales. This is similar to what we have used to estimate firm size and industry-adjusted pay in Figure 3.1 but now using just one country dummy for the United States. The R^2 of 0.33 indicates that more than a third of the variation in compensation across CEOs in the 10 countries is explained by size, industry, and whether or not the firm is located in the United States. The coefficient on the US dummy of 0.564 implies that predicted CEO pay is 76% (i.e., $e^{0.564} - 1$) higher in the United States than in other countries after controlling for size and industry.

In column (2) of Table 3.8 we introduce other firm-level characteristics routinely used in CEO pay regressions: leverage (the ratio of debt to assets), Tobin's Q (the ratio of the market value of assets to book value of assets), stock-return volatility, and stock returns. In addition, to control for differences in ownership structures we include insider ownership and institutional ownership (both measured as a fraction of total shares outstanding). Finally, to control for differences in the structure of the board of directors, we include board size, the fraction of board members considered independent, a dummy variable indicating whether the CEO also serves as the company's chairman, and (as a proxy for both experience and competing time demands) the average number of board memberships held by the average board member.⁷⁴

As shown in column (2) of Table 3.8, the coefficient on the US dummy falls to 0.116 after including the firm, ownership, and board controls, suggesting a US pay premium of about 12%. The coefficient (and associated pay premium) are statistically insignificant, indicating that there is no significant difference in US and European CEO pay levels after controlling for firm, ownership, and board characteristics. Column (2) also shows that CEO pay is positively related to leverage, prior-year stock returns, institutional ownership, and board experience, and negatively related to insider ownership.

⁷⁴ See Fernandes, et al. (2010) for precise definitions, summary statistics, and theoretical justifications and predicted signs for each of these control variables.

Table 3.8 Regressions of 2008 CEO Compensation on Firm and CEO Characteristics

Independent Variables	<i>Dependent Variable:</i>			<i>Dependent Variable:</i>		
	Ln(2008 CEO Pay)			Ln(2008 CEO Pay)		
	Ln(2008 CEO Pay)	<u>Equity Pay</u> Total Pay		European Firms	US Firms	
	(1)	(2)	(3)	(4)	(5)	
US dummy	0.564*** (3.81)	0.116 (1.36)	0.120*** (4.98)			
<i><u>FIRM CHARACTERISTICS:</u></i>						
Sales (log)	0.363*** (36.36)	0.286*** (20.43)	0.031*** (6.46)	0.269*** (11.21)	0.299*** (6.84)	
Leverage	—	0.472*** (3.65)	0.098*** (3.17)	0.206** (2.32)	0.624*** (3.44)	††
Tobin's Q	—	0.029 (1.01)	0.014*** (2.61)	0.090*** (5.92)	-0.006 (-0.12)	††
Stock-return volatility	—	-0.255 (-1.17)	-0.098** (-2.00)	-0.828*** (-5.21)	0.018 (0.05)	††
Stock return	—	0.285*** (17.11)	0.108*** (6.66)	0.302*** (9.56)	0.305** (2.89)	
<i><u>OWNERSHIP STRUCTURE:</u></i>						
Insider ownership	—	-0.667*** (-3.94)	-0.249*** (-8.20)	-0.606*** (-4.62)	-0.447*** (-3.14)	
Institutional ownership	—	0.343*** (7.71)	0.102*** (3.12)	0.301*** (3.80)	0.333 (1.46)	†
<i><u>BOARD STRUCTURE:</u></i>						
Board size	—	0.008 (1.64)	-0.002 (-1.21)	0.018 (1.71)	0.010 (0.83)	
Fraction of independent directors	—	0.269** (2.40)	0.095** (2.41)	0.064 (0.44)	0.413** (2.66)	
CEO-chairman dummy	—	0.071 (1.10)	-0.002 (-0.15)	0.077* (2.20)	0.134* (2.18)	†
Avg. number of board positions	—	0.181*** (6.90)	0.047*** (4.62)	0.249*** (8.32)	0.162** (3.05)	
Observations	2,318	2,116	2,116	808	1,308	
R-squared	0.33	0.38	—	0.57	0.27	

Note: All control variables are measured at the end of the previous year. Regressions include industry dummy variables based on 12 Fama-French industries. "Equity Pay" includes stock and option grants; "Incentive pay" includes stock, options, and short- and long-term bonus payments. Robust *t*-statistics (for OLS regressions for pay levels) and *t*-statistics (Tobit specifications for equity/total) in parentheses are based on standard errors clustered by country.

***, **, * denote that the coefficient is significant at the 1, 5, and 10% levels, respectively.

††, † denote that the European and US coefficients are significant different from each other at the 1 and 5% levels.

One of the primary determinants of CEO expected pay levels – only captured indirectly by firm and industry characteristics – is the riskiness of the pay package. In particular, our measure of total compensation is meant to approximate the expected *opportunity cost* to shareholders of the CEO’s pay package. However, our measure does not approximate the value of the package from the perspective of a risk-averse and undiversified CEO who presumably does not hedge the risk of the package. All else being equal, we expect that CEOs at companies with riskier pay will receive higher expected levels of pay to compensate for the increased risk. In column (3) of Table 3.8, we estimate the following cross-sectional Tobit regression on 2008 pay structures:

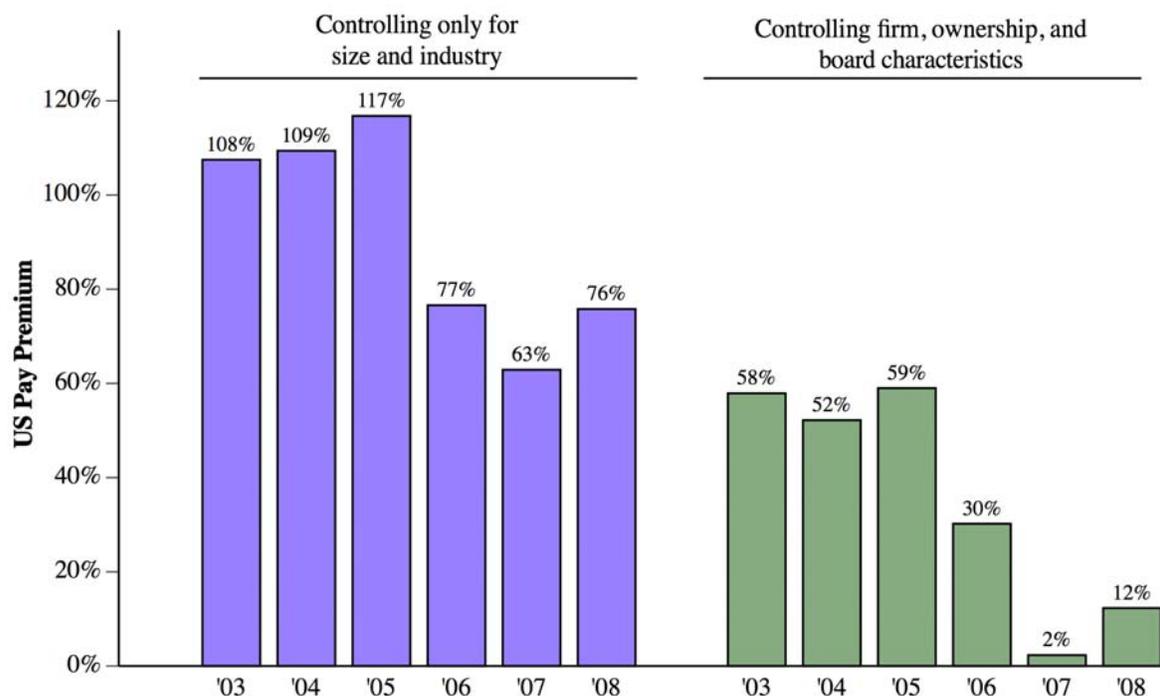
$$\frac{\text{Equity Pay}_i}{\text{Total Pay}_i} = \alpha + \beta_1 (\text{US Dummy}) + \beta_2 (\text{Firm Characteristics}_i) \\ + \beta_3 (\text{Industry dummies}) + \varepsilon_i$$

where “Equity Pay” is defined as the grant-date value of stock and options. Similar to columns (1)–(2), the Tobit regression in column (3) include controls for 12 Fama-French industries with standard errors clustered at the country level. As before, our main variable of interest is the “US Dummy,” which evaluates the difference in the use of equity pay for US and European CEOs.

As shown in column (3) of Table 3.8, the firm characteristics associated with higher pay are generally also associated with a higher use of performance-based compensation. For example, both the level of CEO pay and the use of equity-based pay are positively related to sales, leverage, stock returns, institutional ownership, and the average number of board positions per director; and negatively related to insider ownership. However, even after controlling for firm characteristics, the use of equity-based pay is higher in the United States than in other countries. In particular, the fraction of total pay awarded in the form of stock or options is 12% higher in the United States than in Europe.

The estimates for the US Pay and Equity-Pay Premiums in columns (2) and (3) of Table 3.8 restrict the coefficients on the firm, industry, ownership, and board controls to be the same across all countries. Columns (4) and (5) explores differences in US and European determinants of the level and structure of CEO pay; the symbols to the right of column (5) are based on regressions with interactions of each variable with the US dummy and indicate the significance of the difference between the US and European coefficients. As shown in columns (4) and (5), the relation between CEO pay and Tobin’s Q is significantly higher in Europe, while the relation between CEO pay and leverage and volatility is significantly

Figure 3.2 Time trends in the US Pay Premium, 2003-2008



Note: The figure shows the implied US pay premiums obtained from estimating the regressions in columns (1) and (2) of Table 3.8 for each year from 2003 to 2008. The US pay premiums for 2006-2008 (after controlling for firm, ownership, and board characteristics) are statistically insignificant; all other reported premiums are significant at the 10% level or better.

lower. In addition, the premium for CEOs who also serving as board chairs is higher in the United States.

Figure 3.2 explores time-trends in the US Pay Premium from 2003 to 2008. The implied premiums in the left-hand panel are obtained from estimating the regression in column (1) of Table 3.8 for each year from 2003 to 2008, controlling only for size and industry. The implied premiums in the right-hand panel control for firm, ownership, and board characteristics and are based on column (2) of Table 3.8. The US Pay Premiums fell substantially over this time period, especially between 2005 and 2006. In particular, the premium fell from 117% in 77% from 2005 to 2006 controlling only for size and industry, and from 59% to 30% with the broader controls. Indeed, the estimates for 2006, 2007, and 2008 in the right-hand panel are statistically insignificant, indicating that there has been no significant difference between US and European CEO pay since 2006 after controlling for firm, ownership, and board characteristics.

3.4. Equity-based Incentives for European CEOs

Although pay differences for US versus European CEOs are relatively modest after controlling for firm, ownership, and board characteristics, the results in Table 3.8 suggest an explanation for the remaining difference: the pay premium reflects the fact that US CEOs receive more of their compensation in the form of risky equity-based pay rather than in base salaries and other safer forms of compensation. Since risk-averse executives will naturally demand a premium for accepting risky compensation, it is possible that the observed US pay premium reflects a compensating differential for the increased risk of US pay packages. Indeed, following Lambert, Larcker and Verrecchia (1991) and Hall and Murphy (2002), Fernandes, et al. (2010) show that the US pay premium becomes insignificant after “risk-adjusting” pay levels for US and non-US executives. Similarly, Conyon, Core and Guay (2011) use a slightly different approach and show that, for a reasonable range of parameters, the risk-adjusted pay for US CEOs is not dramatically higher than the risk-adjusted pay for UK CEOs. They also examine differences in pay and equity incentives for a sample of non-U.K. European CEOs and a matched sample of U.S. CEOs and find that risk-adjusting CEO pay may explain about half of the apparent higher pay for U.S. CEOs.

Our finding that the observed US pay premium is in part “explained” by the fact that US CEOs have different pay structures merely shifts the question: Why do American executives United States receive more incentive compensation (and particularly more equity-based compensation) than do European executives?

Table 3.9 Stock-Based Pay (as a Percentage of Total Pay) in Europe and the US, based on Towers Perrin consultant surveys 1984 - 2003

	1984	1988	1992	1996	1999	2001	2003
Belgium	0.0%	0.0%	0.0%	0.0%	3.2%	11.6%	11.2%
France	12.3%	13.3%	15.6%	14.6%	14.3%	15.1%	16.0%
Germany	0.0%	0.0%	0.0%	0.0%	9.7%	13.5%	18.0%
Italy	0.0%	0.0%	0.5%	4.0%	9.1%	17.2%	15.1%
Netherlands	0.0%	0.0%	0.0%	0.0%	14.6%	16.7%	15.8%
Spain	0.0%	0.0%	0.0%	0.0%	16.0%	17.9%	19.2%
Sweden	0.0%	0.0%	0.0%	0.0%	6.8%	11.0%	10.7%
Switzerland	1.9%	1.9%	3.4%	3.6%	1.8%	0.0%	19.2%
United Kingdom	14.5%	14.6%	15.7%	15.0%	16.6%	19.1%	20.8%
United States	16.9%	28.3%	32.3%	28.7%	25.5%	44.8%	48.3%

Note: Data from Perrin's *Worldwide Total Remuneration* reports (various issues), including 1984-1992 data reported by Abowd and Kaplan (1999). Data reflects Towers Perrin's estimate of competitive CEO pay for industrial companies with approximately US \$300 million in annual revenues. Stock-based pay includes the grant-date expected value of option grants and annualized targets from performance share plans.

Indeed, while equity-based compensation (and especially stock options) has been a staple of US compensation contracts for more than a half-century, the use of equity-based pay in most of Europe is a relatively recent phenomenon. Table 3.9 shows how the importance of equity-based pay has changed over time in the United States and in nine European countries using Towers Perrin's *Worldwide Total Remuneration* (WWTR) surveys for the selected years 1984, 1988, 1992, 1996, 1999, 2001, and 2003. The data for the years 1992 to 1996 are based on the Abowd and Kaplan (1999) analysis of the WWTR surveys. As shown in Table 3.9, only France and the United Kingdom made extensive use of stock or options in the 1980s, and equity-based pay did not become common across Europe until the end of the 1990s. By 2003, Towers Perrin reports that equity-based pay accounts for between 10% and 20% of competitive pay for European CEOs, and for about half of pay for American CEOs.

As we discussed above in Section 3.2, the percentages in Table 3.9 are not based on "data" per se, but rather depict the consulting company's estimates of "typical" or "competitive" pay for a representative CEO in an industrial company with an assumed amount in annual revenues, based on questionnaires sent to consultants in each country. In Table 3.10, we provide our own estimates of equity-based pay for 2003-2008 based on actual grant-date values extracted from BoardEx (for Europe) and ExecuComp (for the United

Table 3.10 Stock-Based Pay (as a Percentage of Total Pay) in Europe and the US, based on grant-date values, 2003-2008

	2003	2004	2005	2006	2007	2008
Belgium	n.a.	20.0%	5.9%	10.1%	6.7%	6.2%
France	18.5%	17.1%	14.2%	15.3%	15.7%	14.6%
Germany	12.7%	8.5%	10.6%	10.1%	8.3%	8.9%
Ireland	10.5%	10.2%	11.4%	22.3%	26.7%	22.8%
Italy	9.3%	11.3%	15.5%	11.5%	4.9%	13.2%
Netherlands	19.6%	15.7%	20.3%	22.1%	18.4%	16.6%
Sweden	3.0%	1.2%	1.5%	2.1%	1.9%	1.1%
Switzerland	31.9%	24.1%	20.0%	24.8%	16.5%	11.9%
United Kingdom	26.5%	26.2%	28.4%	30.1%	31.9%	27.6%
All Europe	21.3%	20.0%	20.7%	21.5%	21.1%	19.3%
United States	39.6%	40.7%	40.4%	39.1%	41.9%	45.9%

Note: Data from BoardEx and ExecuComp. The percentages in the table are constructed by first computing the average ratio of equity-based pay to total compensation for each CEO, and then averaging across CEOs.

States). The actual averages for 2003 in Table 3.10 are generally consistent with the consultant surveys in Table 3.9 for the same year, increasing our confidence in both data sources.

As shown in Table 3.10, the use of equity-based compensation has generally declined in continental Europe between 2003 and 2008, and has remained relatively constant in the UK at just under a third of total compensation. In contrast, the use of equity-based pay in the United States has increased from 40.7% of total pay in 2003 to nearly half of total pay in 2008.⁷⁵

Traditional agency theory suggests a finite number of factors that might explain higher pay and incentives among US executives. First, American CEOs may be less risk averse or have steeper marginal costs of effort than their European counterparts, but to our knowledge there is no theory or empirical work suggesting such international differences in risk-aversion coefficients. Second, European performance might be measured with substantially more

⁷⁵ The percentages for US CEOs are substantially smaller than those reported in Figure 2.2, since the former are based on a broad sample of S&P 500, S&P MidCap 400, and S&P SmallCap 600 firms, while the latter are based only on S&P 500 CEOs. As we saw in Table 3.4 equity-based pay (as a percentage of total pay) increases with company size.

noise than in the United States, leading to lower pay-performance sensitivities and lower expected levels of pay. However, we find no evidence that cash flows or shareholder returns are systematically more variable in Europe than in the United States. Extensions of the traditional model to incorporate differences in both ability and in the marginal productivity of CEO effort might help reconcile the data, but only given the additional assumptions that executives are more able and more productive in the United States. Overall, there are no compelling agency-theoretic explanations for the relative reliance on equity-based compensation in the United States.⁷⁶

Our analysis in Section 2.6 offers non-theoretic explanations for the evolution of equity-based pay in the United States. In particular, we showed that America's reliance on stock options as the primary form of long-term compensation began in the 1950s as a result of tax policies designed to promote options, and declined in the late 1960s when the government reduced the tax benefits. The early 1990s created a "perfect storm" for an escalation of option grants: (1) in May 1991, the SEC eliminated the six-month holding requirement for shares acquired by exercising options; (2) in 1993, Congress caved to shareholder pressure, exempting options from the new \$1 million deductibility limit; and (3) in 1995, FASB halted its crusade for option expensing, allowing options to be granted without an accounting expense to the company. The explosion in option grants that followed continued unabated until the burst of the Internet bubble in 2000, followed by a series of accounting scandals that re-focused attention on the accounting treatment of options. Eventually, FASB mandated expensing, and companies moved away from options towards restricted stock.

To the extent that the US experience has reflected US-specific tax, accounting, disclosure, and social policies (coupled with Congressional reactions to isolated scandals), there is no reason a priori to expect that other countries with different regulatory environments will have similar experiences. In the remainder of this Section, we conduct a parallel analysis of the evolution of equity-based compensation in Europe, focusing primarily on the UK, France, Germany, and Italy. We show how compensation practices in each country largely reflect country-specific experiences. At the same time, competition for American consumers, investors, and managers have forced (or allowed?) European companies to move gradually towards US-style incentives.

⁷⁶ Indeed, as documented by Yermack (1995), agency-theoretic variables have little explanatory value in predicting the use of equity-based compensation in a cross-section of US publicly traded firms.

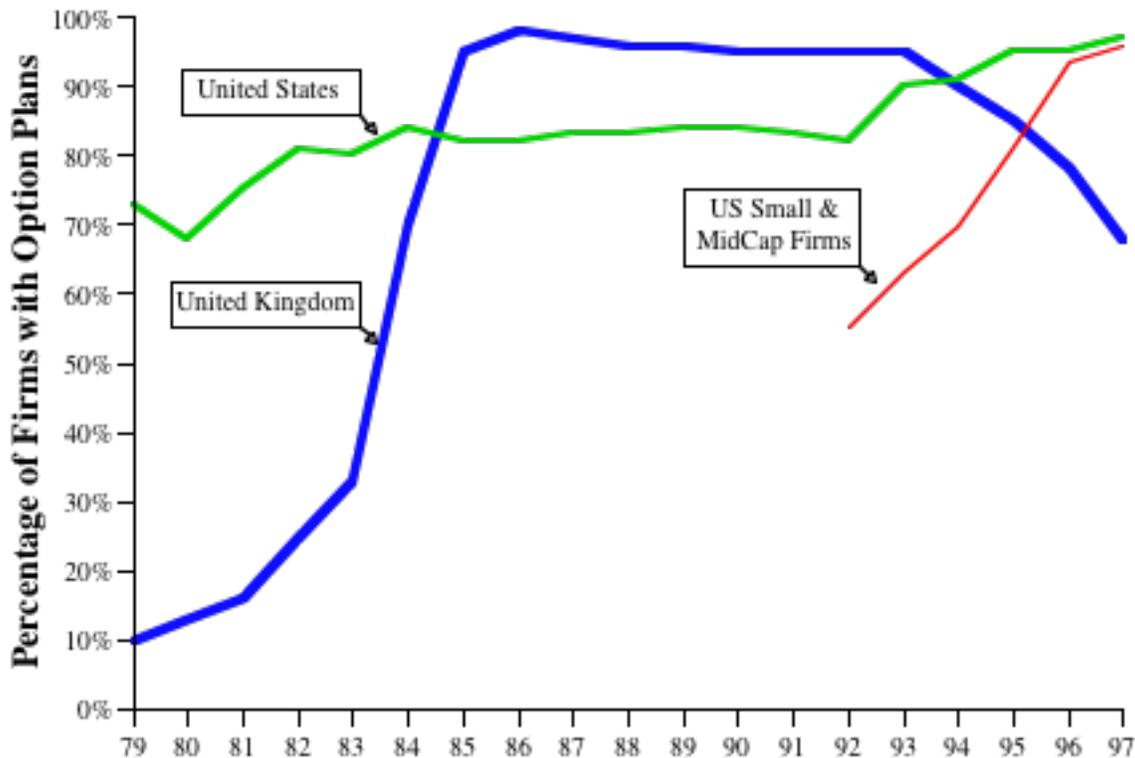
3.4.1. United Kingdom⁷⁷

Figure 3.3 compares the prevalence of stock option plans in the United Kingdom and United States from 1979 to 1997. The UK data are from Main (1999) and are based on data provided by a large compensation consulting firm. The US data for 1979-1996 are from the Conference Board “Top Executive Compensation” reports, which cover predominately S&P 500 companies.⁷⁸ The data for “US Small and MidCap” firms are extracted from ExecuComp, and defined as the fraction of MidCap and SmallCap companies in which the top five executives hold any options during the year. As shown in the figure, options grants in the UK grew dramatically in popularity from the mid-1980s to the early-1990s. In particular, in 1978 only 10% of UK companies offered options to their top executives, by 1983 over 30% of companies offered options.

⁷⁷ This section is based largely on Conyon and Murphy (2000) and Conyon and Murphy (2002).

⁷⁸ The Conference Board discontinued their plan-prevalence data series in 1997. For this year, we use ExecuComp data on the fraction of S&P 500 companies in which the top five executives hold any share options. This definition of prevalence closely tracks the Conference Board’s survey responses for the 1992-1996 period where both sources of prevalence data are available.

Figure 3.3 Prevalence of Stock Option Plans in the UK and United States, 1979 - 1997



Note: UK data from Main (1999). US data 1979-1996 from the Conference Board “Top Executive Compensation” reports (various issues). US data for 1997 include percentage of S&P 500 companies that have executives holding options (these data closely track the Conference Board data from 1992-1996). US Small and MidCap data include percentage of companies in the S&P MidCap 400 and SmallCap 600 that have executives holding options.

The rise in UK option grants beginning in the early 1980s can be traced, in part, to UK tax policies designed to encourage stock option grants to large numbers of UK employees. In particular, the 1980s Finance Act created a new type of option scheme where employees investing their savings in company stock options could escape all taxes upon exercise, provided that they held the option for a sufficient period of time.⁷⁹ The new options had a term of either five or seven years, and would be granted at a fixed exercise price no less than 90% of the grant-date market price. In 1983, the government created a second type of tax-favored option plan, called the “Save As You Earn (SAYE) Share Option Issue Series B.”⁸⁰ In 1984, the government doubled the monthly limit on savings under the plan (from £50 to £100). In April 1984, in a move reminiscent of the US policies in 1950, the UK government extended benefits to top executives receiving options, by designating gains upon exercising

⁷⁹ See Anthony, “Changes to encourage share-holding,” *Guardian* (May 17, 1980), p. 20; Moullin, “Better schemes now for profit-sharing,” *Guardian* (August 16, 1980), p. 18; Davis, “Cheap Shares,” *Observer* (October 24, 1982), p. 23.

⁸⁰ Dibben, “Opening up the options,” *Guardian* (November 19, 1983), p. 23.

options as “capital gains” taxable only when the shares were ultimately sold rather than as ordinary income taxable upon exercise.⁸¹

In 1979, only three UK firms offered options to all employees. By 1982 more than 200 companies were offering such plans, and by 1984 nearly 700 companies offered broad-based government-approved (and encouraged) option plans.⁸² As shown in Figure 3.3, by 1986 – following the new tax treatment for options granted to top executives – nearly all UK companies offered option plans to its executives (and often to all employees). Indeed, as shown in the figure, from 1985 to 1993 the prevalence of options in the United Kingdom surpassed the prevalence in the United States.

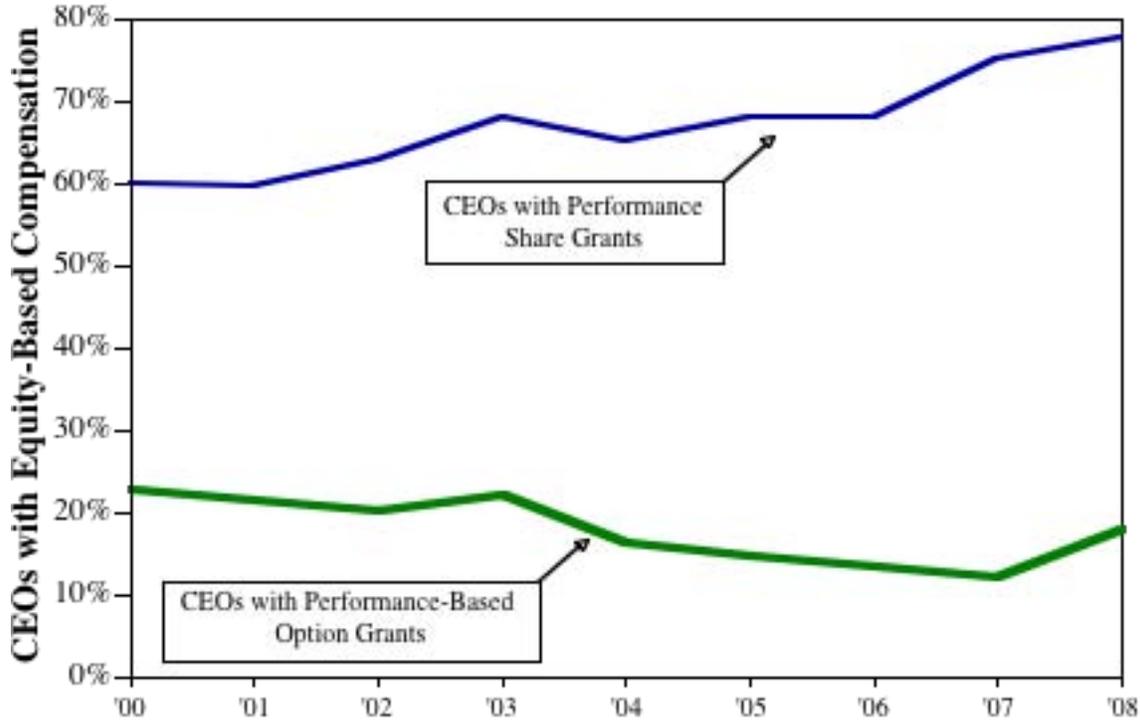
As discussed in Section 3.1, stock options became controversial in the United Kingdom in the early 1990s after executives in water, gas, and electric utilities began reporting gains on options granted when the utilities were privatized in 1990. The exercise prices had been set at the government’s assumption of a market price, which turned out to be much lower than the actual price the shares would sell for on the open market. As a result, the executives realized large option gains even as their companies underperformed their industry. The outrage over these option schemes led to the influential report by the Greenbury (1995) committee, which called for a comprehensive review (with potential retroactive changes) of all option plans at existing privatized utilities, and a moratorium on granting options at newly privatized utilities until six months after the shares are traded on open exchanges. More broadly, the Greenbury committee made several recommendations regarding option plans applicable to all publicly traded UK companies:

- Executive options should be taxed as ordinary income upon exercised, and not as capital gains when the stock is eventually sold.
- All options should be subject to a “challenging performance criteria” so that the option cannot be exercised unless the criteria are met. Executives should not be rewarded for increases in share prices or other indicators which reflect general price inflation, general movements in the stock market, or movements in a particular sector of the market.
- As a preferable alternative to stock options, companies should consider performance share plans, in which shares are awarded if “challenging performance criteria” are fulfilled, provided that the executives hold the shares for a substantial period.

⁸¹ “Share Options: Employees shares fillip,” *Guardian* (March 14, 1984), p. 3.

⁸² Davis, “Cheap Shares,” *Observer* (October 24, 1982), p. 23; “Share Options: Employees shares fillip,” *Guardian* (March 14, 1984), p. 3.

Figure 3.4 CEOs in UK Firms receiving equity-based compensation, 2000-2008



Note: Sample is based on BoardEx data and include UK CEOs in firms with revenues exceeding €100 million.

In response to the Greenbury report and the ongoing controversy, the government tightened the restrictions on approved option awards (i.e., those treated as capital gains rather than ordinary income), reducing the amount that could be awarded to executives (expressed as the aggregate exercise price) from the greater of £100,000 or four times cash emoluments to only £30,000. In addition, the influential Association of British Insurers (ABI) issued guidelines effectively constraining the issuing of options – approved and unapproved – to four times cash compensation.⁸³

While the Greenbury report was not legally binding, most UK firms complied with its recommendations within a few years after its release. As a result, stock options granted in the UK since Greenbury typically vest only upon attainment of some performance criteria, often based on earnings-per-share growth. In addition, many companies replaced their option plans with performance share plans (or added performance share plans on top of option plans). Figure 3.4 shows the percentage of UK companies that made performance option or performance share grants to their CEOs between 2000 and 2008. In 2000, 23% of UK companies offered performance-vesting stock options to their executives (constituting 3% of pay for the average CEO), while 60% offered performance shares (constituting 23% of pay

⁸³ See, for example, Association of British Insurers (1994); Association of British Insurers (1995).

on average). By 2000, only 18% of the companies offered options (constituting only 1.3% of pay), while nearly 80% offered performance shares (averaging 30% of pay).

Juxtaposing the US and UK cases yields an interesting lesson in path dependence, showing how small differences in events can lead to large differences in outcomes. CEO pay became highly controversial in both the United States and United Kingdom at about the same time (i.e., in the early 1990s). Both controversies largely focused on gains realized from stock options at a time when the general economy was poor and company layoffs were prevalent. The UK controversy had the added (and important) element that key source of the outrage focused on executives in recently privatized utilities. Both controversies led to calls for increased compensation disclosure, especially with respect to stock option plans.

In the United States, the controversy culminated with the passage of IRS Section 162(m) that imposed a \$1 million cap on the deductibility of executive compensation, unless that compensation was performance-based. Though the explicit intent of Section 162(m) was to reduce levels of pay, it had the opposite effect by helping to fuel the explosion in stock option grants throughout corporate America. In contrast, the UK controversy culminated with the widespread adoption of the Greenbury recommendations, which demanded that options have performance-vesting provisions and encouraged the use of performance shares over options.

In a sense, the United States has recently moved closer to the United Kingdom with the increasingly importance of restricted stock over traditional stock options: perhaps Figure 2.3 (showing time trends in restricted stock vs. options in the United States) will soon converge to Figure 3.4). However, in contrast to the performance vesting of shares and options in the United Kingdom, the vesting and exercisability of almost all US stock and options is triggered solely by the passage of time and not by meeting performance criteria.

3.4.2. France

The concept of stock options was introduced in France as long ago as 1967, despite President Charles de Gaulle's suspicions of anything emanating from the United States.⁸⁴ France formally made executive stock options legal in 1970 but, due in part to the stagnant stock market of the 1970s and the high marginal tax rate on option exercises, the first

⁸⁴ Graham, "The soft option - The compromise reached over the taxing of executive share," *Financial Times* (April 28, 2000b), p. 18.

executive option plan was not created until 1984.⁸⁵ In that year, the (interestingly) socialist French government passed a rule taxing options as capital gains (at a top rate of 19.4%) rather than as ordinary income (at a top rate of 60%), greatly increasing their attractiveness.⁸⁶ As a result of these new incentives, the use of stock options in France quickly approached their use in the UK (see Table 3.9). In addition, stock options became even more popular after 1987 when a new bill was enacted which allowed unlisted as well as listed firms to grant stock options, significantly broadening the scope of option plans.

Stock options for French CEOs came under attack in the early 1990s, as executives began exercising options granted under the tax rules passed in 1984.⁸⁷ In May 1995, a Senate Commission proposed sweeping new disclosure rules for stock options that would require firms (for the first time) to report detailed information on option grants, and would also prohibit grants made prior to favorable information disclosures.⁸⁸ In addition, since the 1990s French tax legislation has become increasingly less favorable towards stock options. There is tax on the excess discount as salary on exercise and of the exercise gain as a capital gain. Similar to the US tax obligations depend upon whether the plan is a qualifying or non-qualifying plan.

3.4.3. Germany

German law prohibited the use of stock options for executives prior to 1998 (EU Commission (2002)). One exception to this rule was if stock options were based on convertible bonds (the “Wandelschuldverschreibung”). In the mid-1990s, two of Germany’s largest companies – Daimler-Benz and Deutsche Bank – announced plans to offer convertible-bond-based options to its executives. The plans were attacked in both the media and the courts by shareholder groups, worker councils, politicians, and executives in other firms (Sanders and Tuschke (2007)).

In April 1998, the “Corporate Sector Supervision and Transparency Act” (KonTraG) effectively made “naked” stock options (i.e., those not connected with convertible bonds)

⁸⁵ Delaney and Wessel, “Lumpy Gravy: Suppose Stock Options Involved More Pain Than Financial Gain --- That’s the Case in Europe, Which Helps to Explain High-Tech Lag There --- ‘A Bit Perverted’ in France,” *Wall Street Journal* (December 21, 1999a), p. A1.

⁸⁶ Ricklefs, “Changing Course: French Voters Prod Socialist Leadership To Veer Right Sharply --- Government Reduces Taxes, Advocates Stock Options; Impetus: Unemployment --- Virtues of Private Enterprise,” *Wall Street Journal* (September 26, 1984).

⁸⁷ Jack, “France to Reform Stock Options,” *Financial Times* (December 22, 1994), p. 2.

⁸⁸ Jack, “Paris Urges Share Option Reform,” *Financial Times* (May 17, 1995), p. 2.

legal in Germany. Unlike options in France and the United Kingdom (or in the United States in the 1950s-1960s), options in Germany were taxed as ordinary income and not as capital gains. Nonetheless, several companies proposed to offer option plans: while less than 10% of DAX 100 firms used options prior to 1998, 50% of DAX100 firms had adopted stock options by 2000. Many of these plans were attacked in court. A main critic of the plans was Ekkehard Wenger, a professor and self-proclaimed shareholder advocate who successfully delayed (but could not stop) adoption of option schemes at Volkswagen, Daimler-Benz and Deutsche Bank. Wenger was particularly incensed that German firms wanted to offer US-style incentives in a poor economy, arguing that, “US-inspired options schemes are idiotic. A manager of an underperforming company should be sacked, not rewarded.”⁸⁹ Ultimately, Wenger was successful in forcing several companies to impose performance hurdles in option plans, so that options could not be exercised (for example), unless stock-price performance exceeded an industry benchmark.

One of Wenger’s primary targets in 1999 was Daimler-Benz, renamed DaimlerChrysler after its 1998 acquisition of a Big-Three US carmaker. Executive compensation was a major issue when the former Daimler-Benz shareholders were asked to approve the Chrysler takeover in September 1998; shareholders were concerned that Daimler-Benz pay packages would rise to US levels.⁹⁰ At its March 2000 shareholders meeting, shareholders overwhelmingly approved a move towards a “more American structure” of stock options that excluded performance hurdles. Wenger and other shareholder groups challenged the shareholder vote, although the German appeals court ultimately upheld it in June 2001.⁹¹ Two years later, following increased shareholder pressure (and a large drop in its stock price), DaimlerChrysler effectively dropped its option plans.

3.4.4. *Italy*

Stock option plans in Italy existed before 1990, but were mainly limited to subsidiaries of multinational companies (Marchettini (2001)). Prior to 1998, executives exercising options were subject to employment income tax and both the executive and employer were subject to social insurance tax. Under new tax policies effective in July 1998, stock options plans using newly issued shares were no longer considered taxable income (and were taxed at a lowered

⁸⁹ Benoit, “SAP vote may spell German rethink,” *Financial Times* (January 17, 2000). For background on Wenger’s earlier clashes with Daimler-Benz, see Studemann, “Professor takes a run at Daimler,” *Guardian* (37, 1995).

⁹⁰ Bulkeley, “DaimlerChrysler to Equalize Pay of German, U.S. Execs,” *Bloomberg News* (January 9, 1999).

⁹¹ “Court approves stock options at DaimlerChrysler,” *Associated Press Newswires* (June 13, 2001);

12.5% capital gains rate). At about the same time, corporate-governance rules approved by the Italian government made it easier for companies to launch capital increases needed for stock-option programs.⁹² As a result of these two changes, the use of options escalated, and by the end of 1998, half of all companies on the Milan Stock Exchange were either using or planning to introduce stock-option plans (Brunello, Graziano and Parigi (2001)).

In January 2000, the Italian government new policies to both curb perceived abuses under the current system (in which some executives had received highly discounted options) and to further encourage stock option grants, especially those to lower-level employees.⁹³ First, the new rules provided an exemption from income tax and social insurance on the spread at exercise up to a threshold of €2,065 per employee per year, as long as the options were offered to all employees, and the shares were not sold for three years after exercise. Second, the new rules provided for capital gain treatment for all options (and not only those issued from newly issued shares), provided that the recipient held less than 10% of the outstanding shares and that the exercise price of the option was at least the grant-date fair market value.⁹⁴

Stock options became modestly controversial in Italy 2001 after revelations that Gucci top executives could make more that €440 million from exercising options in connection with an acquisition by Pinault-Printemps-Redoute; the rival bidder (Moët-Hennessy Louis Vuitton) described the payments as “monstrously disproportionate.”⁹⁵ But, for the most part, limited disclosure of executive pay practice and option exercises muted public controversy. However, in late 2006, the government added restrictions to the favorable tax treatment, requiring that options must not be exercisable for at least three years after grant, and requiring that executives exercising options hold a portion of the acquired shares for at least five years after exercise.⁹⁶ As shown in Table 3.10, the use of equity-based pay in Italy dropped immediately and significantly after these new requirements.

⁹² O’Brian, “Italian Companies Begin to Provide Stock Options, Details of Financial Data,” *Wall Street Journal* (May 29, 1998); “Italy’s Compart To Offer Execs Stock Options; Joins Trend,” *Dow Jones International News* (March 16, 1998).

⁹³ Salvatore, “Taxation Of Stock Options - A Summary Of Latest Developments - Graham & James,” *Mondaq Business Briefing* (March 1, 2000); Werdel and Diamond, “Navigating stock options in Europe,” *Workspan* (August 1, 2002), p. 28.

⁹⁴ As defined under Italian law, the “fair market value” is the average of the closing prices of the company shares on the relevant stock exchange for each trading day during the month preceding the grant date.

⁹⁵ Johnson, “Gucci chiefs may net \$390m,” *Financial Times* (November 2001, 2001).

⁹⁶ The executive was allowed to sell enough shares to pay the exercise price. See Marshall, “Loss Of Tax Exemption For Italian Stock Options Has A Silver Lining,” *Mondaq Business Briefing* (September 19, 2008).

In August 2008, the Italian government formally eliminated the tax advantages for stock options, requiring all options to be taxed as ordinary income upon exercise. However, a last-minute amendment to the decree allowed option exercises to continue to be exempt from social insurance taxes, provided that the executives comply with the five-year holding period.

3.4.5. Elsewhere in Europe⁹⁷

Spain. Equity plans are not as common in Spain. Stock option plans were introduced in Spain around the early 1990s. The Spanish Personal Income tax law (Law 18/1991) exempted from tax the benefit derived from the provision of shares by a company to its employees. However this exemption was later withdrawn. In 2002 there were approximately 40 Spanish companies that have established stock option plans. Of these, 21 are listed on the IBEX 35. Foreign companies providing stock options to employees of Spanish subsidiaries are more common.

Belgium. Stock options were introduced in Belgium in 1984. Stock options were first specifically provided for in the Belgian income tax law of 1984 for qualifying stock options. Tax law stipulated that the benefit of stock options was, under certain conditions, free of income tax. Due to the very strict conditions, the practical use of this law was minimal and only 14 plans were implemented under this legislation. The 1984 law was replaced in 1999 with a new law governing the tax regime of employee stock options granted from January 1999.

The Netherlands. Stock options seem to have been implemented early on in the Netherlands. In the 1950s, the Dutch Ministry of Finance started developing guidelines for the taxation of employee stock options. The taxable value of options was effectively set at nil, as the options were predominantly granted to US nationals (expatriates) who would pay tax on their options in the US, based on their citizenship. Later, in the 1970s and 1980s, the taxable value of the options had to be discussed with the Dutch tax inspector on a case-by-case basis.

⁹⁷ This sub-section draws from European Union (2002) Employee Stock Options. Information source: http://ec.europa.eu/enterprise/policies/sme/business-environment/employee-stock-options/index_en.htm#h2-3

4. Pay, Politics, and the Financial Crisis

4.1. *The US Experience*

4.1.1. *Pay Restrictions in the October 2008 Bailout Bill*

The financial crisis acted as a catalyst for increased political and regulatory intrusion on executive compensation. On 19 September 2008 – at the end of a tumultuous week on Wall Street that included the Lehman Brothers bankruptcy and the hastily arranged marriage of Bank of America and Merrill Lynch – US Treasury Secretary Paulson asked Congress to approve the Administration’s plan to use taxpayers’ money to purchase “hundreds of billions” in illiquid assets from U.S. financial institutions.⁹⁸ Paulson’s proposal contained no constraints on executive compensation, fearing that restrictions would discourage firms from selling potentially valuable assets to the government at relatively bargain prices.⁹⁹ Limiting executive pay, however, was a long-time top priority for Democrats and some Republican congressmen, who viewed the “Wall Street bonus culture” as a root cause of the financial crisis. Congress was not persuaded. It initially rejected the bailout bill on 30 September, but reconsidered three days later after a record one-day point loss in the Dow Jones Industrial Average and strong bipartisan Senate support. The original US bailout bill establishing the “Troubled Asset Relief Program” (“TARP”) was enacted as part of the “Emergency Economic Stabilization Act” (“EESA”) was passed by Congress on October 3rd, and signed into law by President Bush on the same day.

The October 2008 EESA included what at the time seemed like serious restrictions on executive pay. For example, while Section 304 of the 2002 Sarbanes-Oxley Act required “clawbacks” of certain executive ill-gotten incentive payments, Sarbanes-Oxley only covered the chief executive officer (CEO) and chief financial officer (CFO), and only covered accounting restatements. While applying only to TARP recipients (Sarbanes-Oxley applied to all firms), the October 2008 EESA covered the top-five executives (and not just the CEO and CFO), and covered a much broader set of material inaccuracies in performance metrics. In addition, EESA lowered the cap on deductibility for the top-five executives from \$1

⁹⁸ Solomon and Paletta, “U.S. Bailout Plan Calms Markets, But Struggle Looms Over Details,” *Wall Street Journal* (September 20, 2008), p. A1.

⁹⁹ Hulse and Herszenhorn, “Bailout Plan Is Set; House Braces for Tough Vote,” *New York Times* (September 29, 2008), p. 1.

million to \$500,000, and applied this limit to all forms of compensation (and not just non-performance-based pay). EESA also prohibited new severance agreements for the top five executives, and limited payments under existing plans to 300% of the executives' average taxable compensation over the prior five years. When Treasury "invited" the first nine banks to participate in TARP (in some cases inducing reluctant participants), a critical hurdle involved getting the CEOs and other top executives to waive their rights under their existing compensation plans

4.1.2. Merrill Lynch bonuses fuel a growing controversy

Congressional concern over executive compensation did not end with the October 2008 EESA enactment. Just three days after EESA was signed, congressional hearings on the failure of Lehman Brothers focused not on the firm's bankruptcy but rather on the compensation of Lehman's CEO.¹⁰⁰ By late October, Congress was demanding new and more-stringent limits on executive compensation at the bailed-out firms.¹⁰¹

While controversies over executive compensation have erupted on occasion for decades, the eruptions reached Mt. Vesuvius levels in early 2009 when it was revealed the Merrill Lynch had paid bonuses of \$1 million (€720,000) or more apiece to nearly 700 employees just ahead of its acquisition by Bank of America.¹⁰² By 2004, Merrill had become the leading underwriter of mortgage-based collateralized debt obligations (CDOs), and held on to a substantial portion of its own CDOs as an investment. When the mortgage market collapsed, so did the value of the CDOs: between July 2007 and July 2008 Merrill lost nearly €14 billion, or about €38 million daily.¹⁰³ Fearing Merrill's imminent failure, the US Treasury and Federal Reserve hastily arranged a €36 billion shotgun wedding between Merrill and Bank of America. When Bank of America took the proposed merger agreement to a shareholder vote, it assured shareholders that Merrill could not pay any bonuses without express written consent from Bank of America. What the bank failed to tell shareholders is that it had *already* given Merrill written consent to pay up to €4.2 billion in discretionary year-end bonuses.

¹⁰⁰ Sorkin, "If This Won't Kill The Bonus, What Will?," *New York Times* (October 7, 2008), p. 1.

¹⁰¹ Crittenden, "U.S. News: Lawmakers Want Strings Attached," *Wall Street Journal* (October 31, 2008), p. A4.

¹⁰² Bray, "Crisis on Wall Street: Merrill Gave \$1 Million Each to 700 Of Its Staff," *Wall Street Journal* (February 12, 2009), p. C3.

¹⁰³ Story, "Chief Struggles to Revive Merrill Lynch," *New York Times* (July 18, 2008).

In December 2009, just before the completion of the merger, Merrill distributed €2.6 billion in bonuses to its 36,000 employees; the top 14 bonus recipients received a combined €180 million, while the top 149 received €616 million (Cuomo (2009)). The CEOs of Bank of America and the former Merrill Lynch (neither of whom received a bonus for 2008) were quickly hauled before Congressional panels outraged by the payments, and the Attorney General of New York launched an investigation to determine if shareholders voting on the merger were misled about both the bonuses and Merrill's true financial condition. The SEC joined in with its own civil complaint which sued the Bank of America but not its individual executives, and the bank agreed to settle for €24 million. However, a few weeks later a federal judge threw out the proposed settlement, insisting that individual executives be charged and claiming that the settlement did "not comport with the most elementary notions of justice and morality."¹⁰⁴ In February 2010, the judge relented and approved the settlement after it had been increased to over €100 million.

4.1.3. Pay Restrictions in the February 2009 "Revised" Bailout Bill

By the time the Merrill Lynch bonuses were revealed, the United States had a new President, a new administration, and new political resolve to punish the executives in the companies perceived to be responsible for the global meltdown. In mid-February 2009, separate bills proposing amendments to ESSA had been passed by both the House and Senate, and it was up to a small "conference" committee to propose a compromise set of amendments that could be passed in both chambers. On 13 February – as a last-minute addition to the amendments – the conference chairman (Senator Chris Dodd) inserted a new section imposing restrictions on executive compensation that were opposed by the Obama administration and draconian even relative to the limitations in the October 2008 version. Nonetheless, the compromise was quickly passed in both chambers with little debate and signed into law by President Obama on 17 February 2009.

¹⁰⁴ Scannell, Rappaport and Bravin, "Judge Tosses Out Bonus Deal --- SEC Pact With BofA Over Merrill Is Slammed; New York Weighs Charges Against Lewis," *Wall Street Journal* (September 15, 2009), p. A1.

Table 4.1 Comparison of Pay Restrictions in EESA (October 2008) and ARRA (February 2009)

<i>A. Limits on Pay Levels and Deductibility</i>	
Pre-EESA (IRS §162(m) (1994))	Limits deductibility of top-5 executive pay to \$1,000,000, with exceptions for performance-based pay
EESA (2008)	Limits deductibility of top-5 executive pay to \$500,000, with no exceptions for performance-based pay
ARRA (2009)	In addition to deductibility limits, disallows all incentive payments, except for restricted stock capped at no more than one-half base salary. No caps on salary.
<i>B. Golden Parachutes</i>	
Pre-EESA (IRS §280G (1986))	Tax penalties for change-in-control-related payments exceeding 3 times base pay (typically defined as average taxable income over prior 5 years)
EESA (2008)	No new severance agreements for Top 5, and no payments for top 5 executives under existing plans exceeding 3 times base pay
ARRA (2009)	No payments for Top 10 (Disallows all payments, not just “excess” payments)
<i>C. Clawbacks</i>	
Pre-EESA (Sarbanes-Oxley (2002))	Covers CEO and CFO of publicly traded firms following restatements
EESA (2008)	Top 5 executives, applies to public and private firms, not exclusively triggered by restatement, no limits on recovery period, covers broad material inaccuracies (not just accounting restatements)
ARRA (2009)	Covers 25 executives for all TARP participants

Table 4.1 compares the pay restrictions under the original 2008 EESA bill and the 2009 ARRA (which amended Section 111 of the 2008 EESA). While the “clawback” provisions under the original EESA covered only the top five executives (up from only two in SOX), the “Dodd Amendments” extended these provisions to 25 executives and applied them retroactively.¹⁰⁵ In addition, while the original EESA disallowed severance payments in excess of 300% of base pay for the top five executives, the Dodd Amendments covered the top 10 executives and disallowed *all* payments (not just those exceeding 300% of base). The Dodd Amendments also retroactively extended the deductibility restrictions to the top 25 executives (and not just the top 5). Most importantly, the Dodd Amendments allowed only two types of compensation: base salaries (which were not restricted in magnitude), and restricted stock (limited to grant-date values no more than half of base salaries). The forms of

¹⁰⁵ The number of executives covered by the Dodd Amendments varied by the size of the TARP bailout, with the maximum number effective for TARP investments exceeding \$500 million. As a point of reference, the average TARP firm among the original eight recipient received an average of \$20 *billion* in funding, and virtually all the outrage over banking bonuses have involved banks taking well over \$500 million in government funds. Therefore, we report results assuming that firms are in the top group of recipients.

compensation explicitly prohibited under the Dodd amendments for TARP recipients include performance-based bonuses, retention bonuses, signing bonuses, severance pay, and all forms of stock options. Finally, the Dodd amendments imposed mandatory “Say on Pay” resolutions for all TARP recipients.

As draconian as the Dodd Amendments (triggered by the Merrill Lynch payments) were, things were about to get worse. The second flash point for outrage over bonuses involved insurance giant American International Group (AIG), which had received over €125 billion in government bailout funds, in large part to offset over €40 billion in credit default-swap losses from its Financial Products unit. In March 2009, AIG reported it was about to pay €121 million as the second installment of €320 million in contractually obligated “retention bonuses” to employees in the troubled unit. (The public outrage intensified after revelations that most of AIG’s bailout money had gone directly to its trading partners, including Goldman Sachs (€9.3 billion), Germany’s Deutsche Bank (€8.6 billion), and France’s Societe Generale (€8.3 billion).) The political fallout was swift and furious: in the week following the revelations seven bills were introduced in the House and Senate aimed specifically at bonuses paid by AIG and other firms bailed out through Treasury’s Troubled Asset Relief Program (“TARP”):

- H.R. 1518, the “Bailout Bonus Tax Bracket Act of 2009” imposed a 100% tax on bonuses over \$100,000.
- H.R. 1527 imposed an additional 60% tax (on top of 35% ordinary income tax) on bonuses exceeding \$100,000 paid to “employees of businesses in which the federal government has an ownership interest of 79% or more.” (Not coincidentally, the government owned 80% of AIG when the bill was introduced.)
- H.R. 1575, the “End Government Reimbursement of Excessive Executive Disbursements Act” (i.e., the “End GREED Act”) authorized the Attorney General to seek recovery of and limit excessive compensation.
- H.R. 1577, the “AIG Bonus Payment Bill” required the Secretary of Treasury to implement a plan within two weeks to thwart the payment of the AIG bonuses, and required Treasury approval of any future bonuses by any TARP recipient.
- H.R. 1586 sought to impose a 90% income tax on bonuses paid by TARP recipients; employees would be exempt from the tax if they returned the bonus in the year received.

- S. 651, the “Compensation Fairness Act of 2009,” imposed a 70% excise tax (half paid by the employee and half by the employer) for any bonus over \$50,000 paid by a TARP firm.
- H.R. 1664, the “Pay for Performance Act of 2009” prohibited any compensation payment (under existing as well as new plans) if such compensation: (1) is deemed “unreasonable or excessive” by the Secretary of the Treasury; and (2) includes bonuses or retention payments not directly based on approved performance measures. The bill also created a Commission on Executive Compensation to study and report to the President and Congress on the compensation arrangements at TARP firms.

Most of these bills (H.R. 1518, 1527, 1575, 1577 and S. 651) were either stalled in committees or failed in a vote. However, H.R. 1586 and H.R. 1664 (the Pay for Performance Act of 2009) were passed by the House and sent to the Senate. H.R. 1586 was ultimately passed after being stripped of the executive-compensation provisions, while the main features of H.R. 1664 were incorporated into the July 2010 Dodd-Frank “Wall Street Reform” bill discussed below.¹⁰⁶ Therefore, the reason to list the bills above is not for their ultimate relevance to policy, but rather as evidence of Congressional outrage and a political resolve to punish Wall Street for its bonus practices.

While details on the compensation of the five highest-paid executive officers are publicly disclosed and widely available, banks have historically been highly secretive about the magnitude and distribution of bonuses for its traders and investment bankers. Indeed, since the SEC disclosure rules only apply to *executive officers*, the banks can have non-officer employees making significantly more than the highest-paid officers. Following the Merrill Lynch and AIG revelations, New York Attorney General Andrew Cuomo subpoenaed bonus records from the nine original TARP recipients, arguing that New York law allows creditors to challenge any payment by a company if the company did not get adequate value in return. His report – published in late July 2009 – was provocatively titled: “No Rhyme or Reason: The ‘Heads I Win, Tails You Lose’ Bank Bonus Culture.”

Table 4.2 summarizes the distribution of bonuses for the nine original TARP recipients, based on data from the Cuomo (2009) report. The table shows, for example, that 738 Citigroup employees received bonuses over US\$1 million (€720,000), and 124 received over US\$3 million (€2.15 million), in a year when the bank lost €20 billion. The 2008 bonus

¹⁰⁶ Without trying to explain (because it is beyond our comprehension), H.R. 1586 was ultimately passed and signed into law as the “FAA Air Transportation Modernization and Safety Improvement Act,” stripped of any mention of executive bonuses and TARP recipients.

Table 4.2 2008 Earnings and Bonus Pools for Eight Original TARP Recipients

Corporation	2008 Earnings/ <i>(Losses)</i> (€bil)	2008 Bonus Pool (€bil)	Number of Employees Receiving Bonuses Exceeding		
			\$3 mil (€2.2mil)	\$2 mil (€1.4mil)	\$1 mil (€.7mil)
Bank of America	€2.9	€2.4	28	65	172
Bank of New York Mellon	€1.0	€0.7	12	22	74
Citigroup	<i>(€20.0)</i>	€2.9	124	176	738
Goldman Sachs	€1.7	€3.8	212	391	953
J P Morgan Chase	€4.0	€6.2	>200		1,626
Merrill Lynch	<i>(€19.8)</i>	€2.6	149		696
Morgan Stanley	€1.2	€3.2	101	189	428
State Street Corp	€1.3	€0.3	3	8	44
Wells Fargo & Co.	<i>(€30.8)</i>	€0.7	7	22	62

Source: Cuomo (2009). Wells Fargo's losses include losses from Wachovia (acquired in December 2008).

pools exceeded annual earnings in six of the nine banks; in aggregate the banks paid €22.8 billion in bonuses while losing €58.5 billion in earnings. Not surprising, the Cuomo report further fueled outrage over Wall Street bonuses on both Main Street and in Washington.

4.1.4. *The Treasury issues its Final Rules and appoints a Pay Czar*

The Dodd Amendments were signed into law with the understanding that the US Treasury would work out the implementation details. In June 2009, Treasury issued its rulings, along with the simultaneous creation of the Office of the Special Master of Executive Compensation. The Special Master (colloquially known as the “Pay Czar”) had wide-ranging authority over all TARP recipients, but was particularly responsible for all compensation paid to the top 25 executives in the seven firms deemed to have required “special assistance” from the US government: Bank of America, Citigroup, AIG, General Motors, Chrysler, and the financing arms of GM and Chrysler. The Special Master released his set of decisions in October 2009. Kevin Murphy at University of Southern California (an author of this report) and Lucian Bebchuk at Harvard University acted as academic advisors to Kenneth Feinberg, the Special Master.¹⁰⁷

¹⁰⁷ For the record, we note that although advice was given it does not imply that it was followed.

Since taxpayers had become the major stakeholder in the seven “special assistance” firms, the government arguably had a legitimate interest in the firms’ compensation policies. One could imagine, for example, embracing an objective of “maximizing shareholder value while protecting taxpayers,” or perhaps “maximizing taxpayer return on investment.” However, the US Treasury instructed the Special Master to make pay determinations using the “public interest standard,” an ill-defined concept that allows too much discretion and destroys accountability for those exercising the discretion. For example, applying the “public interest standard” allows Congress to limit compensation they perceive as excessive, without evidence or accountability for the consequences. Similarly, invoking the “public interest standard” forced the Special Master to navigate between the conflicting demands of politicians (insisting on punishments) and taxpayer/shareholders (concerned with attracting, retaining, and motivating executives and employees).

Ultimately, the Special Master catered to prevailing political and public sentiment, and severely penalized the executives in firms viewed as responsible for the meltdown by drastically reducing their cash compensation. As shown in Table 4.3, 2009 cash compensation at the three banks regulated by the Special Master were cut by an average of 94%, while total compensation was cut by an average of 64%.

As an example of how the “public interest standard” can lead to punitive pay cuts, consider the case of Bank of America’s Ken Lewis, who as recently as December 2008 was named American Banker’s “Banker of the Year” for his firm’s rescue of Merrill Lynch.¹⁰⁸ In October 2009, Mr. Lewis announced he would step down at the end of the year, and indicated that he would forego his 2009 bonus and the remainder of his 2009 salary. The Special Master decided that wasn’t enough, and demanded that Mr. Lewis return *all* the salary already earned for services rendered the year, or risk a determination that Mr. Lewis’ contractual pension benefits were contrary to the public interest (and therefore subject to renegotiation).¹⁰⁹ It is difficult to view this decision as anything other than punitive and a misuse of the “public interest standard,” since Mr. Lewis clearly rendered services on behalf of Bank of America during 2009, and should clearly be compensated for that service.

¹⁰⁸ Fitzpatrick and Scannell, “BofA Hit by Fine Over Merrill --- Bank Pays SEC \$33 Million in Bonus Dispute; Sallie Krawcheck Hired in Shake-Up,” *Wall Street Journal* (August 4, 2009), p. A1.

¹⁰⁹ Story, “Pay Czar Doubts Cuts Will Make Bankers Leave,” *New York Times* (October 23, 2009), p. 8.

Table 4.3 Changes in Pay Imposed by Treasury’s Special Master for Seven US Firms Requiring “Special Assistance”

Corporation	Percentage Change in Pay from 2008 Levels		Percentage Change in Pay from 2007 Levels		Number of Executives in Top 25
	Cash	Total	Cash	Total	
AIG	-90.8%	-57.8%	-89.2%	-55.7%	13
Bank of America	-94.5%	-65.5%	-92.2%	-63.3%	13
Citigroup	-96.4%	-69.7%	-78.4%	-89.6%	21
General Motors	-31.0%	-24.7%	-46.0%	-16.9%	20
Chrysler	-17.9%	+24.2%	+14.0%	+72.3%	25
GMAC	-50.2%	-85.6%	-42.5%	-78.2%	22
Chrysler Financial	-29.9%	-56.0%	na	na	22

Source: October 22 letters from Special Master to each company, available at the US Treasury website (www.treas.gov).

4.1.5. *The Dodd-Frank “Wall Street Reform Act” further regulates compensation*

In July 2010, President Obama signed into law the Dodd-Frank “Wall Street Reform and Consumer Protection Act” or “Dodd-Frank Act,” which was the culmination of the President and Congress’s controversial and wide-ranging efforts to regulate the financial services industry. In spite of its enormity – the bill itself spans 848 pages – the Act leaves most of the “details” to be promulgated by a variety of government entities, including the SEC, Federal Reserve System, the Department of Treasury, the Commodity Futures Trading Commission, the Financial Stability Oversight Council, the Federal Deposit Insurance Corporation, the Federal Trade Commission, the Government Accounting Office, and the Office of the Comptroller of the Currency. Indeed, attorneys at DavisPolk (2010) calculate that the Act requires regulators to create 243 new rules, conduct 67 studies, and issue 22 periodic reports.

While ostensibly focused on regulating firms in the financial services industry, the Dodd-Frank Act in fact imposes one of the most sweeping reforms of executive compensation and corporate governance in the United States since the 1934 Securities Act. In Section 2.8, we discussed the provisions of Dodd-Frank that affected all publicly traded US firms, and will focus here on the primary compensation-related provision affecting only financial institutions.

Specifically, Part (a) of Section 956 of the Dodd-Frank Act requires all financial institutions (public or private, TARP recipients and non-recipients) to identify and disclose

(to their relevant regulator) any incentive-based compensation arrangements that “could lead to material financial loss to the covered financial institution,” or that “provides an executive officer, employee, director, or principal shareholder of the covered financial institution with excessive compensation, fees, or benefits.” In addition, Part (b) of Section 956 of the Dodd-Frank Act prohibits financial institutions from adopting any incentive plan that regulators determine “encourages inappropriate risks by covered financial institutions, by (1) providing an executive officer, employee, director, or principal shareholder of the covered financial institution with excessive compensation, fees, or benefits; or (2) that could lead to material financial loss to the covered financial institution.”

Since at least the early 1990s, there has always been a tension between shareholders (the firm’s legal owners) concerned about CEO incentives, and “uninvited guests” (such as politicians and labor unions) concerned about high levels of pay. After the TARP bailouts in the financial crisis, the analogous tension was between taxpayers (who wanted to be protected from excessive risks while receiving and appropriate return on their investment) and politicians who were outraged about perceived excesses in banking bonuses. Section 956(b) of the Dodd-Frank Act deliberately conflates these tensions, by explicitly defining “excessive compensation” as an “inappropriate risk.” Moreover, Section 956(a) of the Dodd-Frank Act requires banks to inform their regulators of compensation plans that provide excessive compensation, delegating to the regulators the Herculean task of defining what compensation is “excessive” (or, indeed, which risks are “inappropriate”).

When executive compensation is described as “excessive,” the individual offering the description usually means one of three things. First, the term might refer to cases where compensation is determined not by competitive market forces but rather by captive board members catering to rent-seeking entrenched executives.¹¹⁰ Second, the term might refer to concerns about the misallocation of resources, such as a belief that top executives shouldn’t earn that much more than teachers because teachers are more important to society. Finally, although generally not acknowledged by the participants in these often frenzied debates, the term might reflect one of the least attractive aspects of human beings: jealousy and envy.

Without question, the highest-paid employees in financial services firms are paid more than their counterparts in other industries, driven largely by what has become known as the “Wall Street Bonus Culture.” The heavy reliance on bonuses has been a defining feature of

¹¹⁰ See, for example, Bebchuk and Fried (2004a); Bebchuk and Fried (2004b); Bebchuk, Grinstein and Peyer (2010); Bebchuk, Fried and Walker (2002); Bebchuk and Fried (2003); Fried (2008a); Fried (2008b); Fried (1998).

Wall Street compensation for decades, going back to the days when investment banks were privately held partnerships. Such firms kept fixed costs under control by keeping base salaries low and paying most of the compensation in the form of cash bonuses that varied with individual or company profitability. This basic structure remained intact when the investment banks went public, but the cash bonuses were replaced with a combination of cash, restricted stock, and stock options. The rewards available to top performers have attracted the best and brightest college, MBA, and PhD graduates into financial services. While some might argue that it would be better to have the best and brightest graduates become doctors or public servants, a general advantage of a capitalist free-market economy (emphasized by Smith (1776)) is its propensity to move resources to higher-valued uses.

The fact that pay is *high* does not necessarily imply that pay is *excessive* in the sense of not being determined by competitive market forces. Even the most vocal advocates of the view that powerful CEOs effectively set their own salaries rarely apply the view to executives and employees below the very top. The highest-paid employees in financial services firms typically have scarce and highly specialized skills that are specific to their industry but not necessarily to their employer. As a result, employees in financial services are remarkably more mobile both domestically and internationally when compared to employees in most other sectors in the economy.

Assuming (with good evidence) that banking bonuses are the result of competitive market forces, and assuming (also with good evidence) that capitalist free-market economy are relatively efficient in moving resources to higher-valued uses, one interpretation of Section 956 of the Dodd-Frank Act is that Christopher Dodd and Barney Frank are opposed to high banking bonuses *per se*, appearing to go far beyond concerns that such bonuses motivated excessive risk taking (as we will discuss shortly).

Ultimately, detached and impartial opinion seems to be prevailing as the US regulators create rules to implement the Dodd-Frank provisions. In February 2011, the FDIC (in conjunction with the Federal Reserve, SEC, and four other relevant agencies) announced their proposal for implementing Section 956 of the Act. The proposal calls for firms to identify individuals who “have the ability the expose the firm to substantial risk,” and that such individuals have at least 50% of their bonuses deferred for at least three years. In the initial FDIC proposal – which is fully binding only for banks with more than \$50 billion in assets – there was no mention of “excessive” pay levels, and no guidance on how the deferred pay might be forfeited or reduced based on subsequent results.

4.2. *The European Experience*

4.2.1. *How the Bank-Bonus Controversy Developed*

The United States was not the only country to place restrictions on pay in financial institutions requiring government bailouts: political and public outrage at Bankers bonuses became widespread in Europe, too. In the United Kingdom the failure of banks such as the Royal Bank of Scotland and Northern Rock, and their subsequent bailout by taxpayers, ignited widespread public concern about bank bonuses.¹¹¹ Initially, the focus of the constraints in both the United States and Europe was not on “banker bonuses” defined broadly (because little information was available about these payouts) but rather on severance and other payments for the top executives at the failing firms. In many cases, companies took “pre-emptive” actions reflecting both the public mood and in anticipation of government action. In October 2008 (following the first round of government bailouts on both sides of the Atlantic):¹¹²

- French business leaders adopted a “code of conduct” to prevent severance payments for failed executives.
- The German cabinet imposed a €500,000 annual salary cap and other limits on top executives of banks that received capital injections or sold troubled assets under that nation’s rescue plan. In addition to the salary limits, executives in the bailed-out banks were prohibited from exercising stock options or receiving bonuses, option grants, and severance payments until the government was paid back. Germany’s largest bank – Deutsche Bank AG – announced that its top ten executives would forego 2008 bonuses even though the bank was not intending to participate in the government bailout.¹¹³
- Top executives of the Netherlands’ ING Groep NV agreed to forego 2008 bonuses and limit severance payments in exchange for a government capital injection.
- As a condition of receiving bailout funds, Swedish banks had to reach an agreement with the Swedish government limiting compensation for “key executives.”

¹¹¹ Northern Rock was nationalized in February 2008. Of the five independent retail banks (HSBC, Lloyds Banking Group, Royal Bank of Scotland, Standard Chartered, and Barclays) the UK government has a controlling share stake of 84% in Royal Bank of Scotland and a 43% stake in Lloyds Banking Group.

¹¹² The October 2008 description is based largely on Lublin and Esterl, “Executive Pay Curbs Go Global,” *Wall Street Journal* (October 21, 2008), p. A1.

¹¹³ As noted in Section 4.1, Deutsche Bank (along with France’s Societe Generale) ended up receiving more than €8 billion each under US TARP payments to AIG.

- Executives at Swiss banker UBS AG agreed as part of its recapitalization to use “international best practices” for executive pay, and to allow government monitoring of its pay practices.

In March 2009, following the Merrill Lynch and AIG revelations in the United States, the anger over executive pay expanded from top-executive compensation to a broader attack on the banking bonus culture:

- Germany’s finance minister demanded the return of €58 million in “obscene” bonuses from nine executives at Dresdner Bank, which had a loss of €6.3 billion in the prior year. While Dresdner’s former CEO had waived his right to a €3.6 million severance package, the public was particularly incensed at the €7.5 million awarded to the head of Dresdner’s investment banking division (responsible for most of the 2008 losses).¹¹⁴
- In anticipation of public criticism, Italy’s UniCredit SpA and Germany’s Commerzbank AG announced that its investment banking staff would be paid no bonuses for 2008 unless there was a legal requirement to do so.¹¹⁵
- In France, public condemnation by President Sarkozy of Societe Generale’s executive stock-option awards led the company to cancel the awards; BNP Paribas SA followed suit and announce it would abandon option awards. Pressures to limit bonuses more broadly mounted after the French bank Natixis SA revealed plans to pay 3,000 traders and other employees €70 million in bonuses for 2008; Natixis had a loss of €2.8 billion the prior year, and had received €2.0 billion in a state bailout package. As a result of these pressures, on 30 March the government imposed a ban on all option grants until at least the end of 2010 for any bank or automaker receiving government assistance, and also banned bonuses not expressly linked to previously set targets.¹¹⁶
- On 2 April, the “Group of 20” (G20) leading economies established the Financial Stability Board (FSB) to flag potential problems in the global financial system. The newly formed FSB immediately issued guidelines for banking bonuses, recommending that bonuses should be adjusted for the risk the employee takes, should be linked to

¹¹⁴ “Call for Dresdner execs to return bonuses get mixed response,” *Banking Newslink* (March 31, 2009).

¹¹⁵ Wilson, “Financial News: Unicredit pulls bonuses at its investment bank,” *Wall Street Journal Europe* (March 9, 2009a), p. 22.

¹¹⁶ Moffett, “France Faces Pressure Over Bonuses As Natixis Sets \$94.6 Million Payout,” *The Wall Street Journal* (March 28, 2009), p. B5; Gauthier-Villars, “Leading the News: Sarkozy, banks set new limits on bonuses --- Pay czar to monitor best-paid traders at France’s banks,” *Wall Street Journal Europe* (August 26, 2009), p. 3.

performance, should be deferred to take account of the duration of the risks being taken, and should be paid in a mixture of cash and equity.¹¹⁷

The controversy over banker bonuses continued to simmer throughout the summer, and erupted at the end of August ahead of the 24 September G20 summit in Pittsburgh:

- On 14 August 2009, Germany's banking regulator, BaFin, announced new rules allowing for "clawbacks" of individual compensation.¹¹⁸
- On 26 August, French President Sarkozy indicated that he would push for limits on banking bonuses at the G20 summit. The UK and Germany quickly indicated their support.¹¹⁹ On the same day, Mr. Sarkozy announced sweeping new rules for banking bonuses in France. Under the new rules, traders cannot receive more than one-third of their bonus in cash the current year. The remaining two thirds must be staggered over the following two years, paid in part in restricted shares, and be subject to forfeiture if the trader's department loses money over that time.

Mr. Sarkozy's announcement was in part a reaction to news that BNP Paribas SA (who had canceled scheduled option awards the prior year) had set aside €1 billion for 2009 bonuses. Following the new rules, BNP Paribas cut its scheduled bonuses in half, and BNP Paribas, Societe Generale, and Credit Agricole agreed to new rules on banking pay and disclosure of bonus payments.¹²⁰

- On 2 September, the Finance Ministers from the 27 European Union countries met to discuss banking bonuses. By the conclusion of the meeting, Belgium, Luxembourg, the Netherlands, Germany, and Sweden all indicated their support for the French model.¹²¹ On the same day, UK Prime Minister Gordon Brown, French President Sarkozy, and German Chancellor Merkel co-signed a letter to the EU president supporting

¹¹⁷ Larsen, "Rules unlikely to end bonus furore," *Financial Times* (April 2, 2009).

¹¹⁸ Smith, "Germany's BaFin Clamps Down On Bank Risk Mgmt, Bonuses," *Dow Jones International News* (August 14, 2009).

¹¹⁹ "UK joins issue with France on bonus issue," *Global Banking News* (August 26, 2009); "Germany backs calls to limit banker bonuses," *Agence France Presse* (August 28, 2009); "France, Germany want bonus curbs," *The Times* (September 1, 2009), p. 36.

¹²⁰ Davies, "France announces bank bonus crackdown and urges G20 nations to follow suit," *The Guardian* (August 26, 2009), p. 23; Inman, "Finance ministers disagree on bonuses," *Australian Financial Review* (September 3, 2009), p. 16.

¹²¹ ; Annan, "EU Finance Ministers Back Curbing of Bank Bonuses," *IHS Global Insight Daily Analysis* (September 4, 2009).

regulations where bonuses are deferred and subject to forfeiture if performance deteriorates in the future.¹²²

- On 3 September, the head of Sweden's central bank called for discussions on banking bonuses at the G20 summit, claiming that: "it's not appropriate that we have bonuses that allow people to cash in big and then ruin the system."¹²³
- On 4 September, the finance ministers of France, Germany, Italy, Luxembourg, the Netherlands, Spain, and Sweden jointly called for a ban on all guaranteed bonuses and deferral of all other bonuses over several years.¹²⁴
- On 5 September, the G20 finance ministers met in London, concluding as a group that banking bonuses were a key cause of the financial crisis. The G20 countries agreed that they would implement tax and other policies to encourage banks to reward long-term rather than short-term success. However, the group failed to agree on specifics of bonus regulations: the German and French ministers argued for strict caps on bonuses based on short-term gains, while the US Treasury Secretary argued that the focus should be on requiring banks to hold more capital, and not global restrictions on compensation.¹²⁵ Italian Prime Minister Berlusconi also indicated that his country would not support a cap on bonuses, arguing that limiting speculation is more important than limiting banking bonuses.¹²⁶

Ultimately, President Sarkozy's hope for the G20 nations to agree to a global cap on banking bonuses failed after the UK and United States indicated that the proposed cap was too restrictive.¹²⁷ However, at the Pittsburgh G20 summit, the world leaders agreed to pay regulations proposed by the Financial Stability Board. Under the FSB proposals, which would apply only to the finance sector:

- At least 40% of each executive's bonus would be deferred over a number of years, rising to 60% for the bonuses of the most senior executives.

¹²² Monaghan, "Brown sets out plan for bonus clampdown," *Daily Telegraph* (September 4, 2009a), p. 1.

¹²³ "Sweden central bank chief: banking bonuses need to change," *Reuters News* (September 3, .

¹²⁴ "G20 : Buzek Backs Calls to Limit Bankers' Pay," *Europolitics* (September 10, 2009).

¹²⁵ Lekakis, "Bank executives face \$50m loss under bonus bans," *The Advertiser* (September 7, 2009), p. 55; "G20 punts on bank bonuses," *UPI Energy Resources* (September 5, 2009)

¹²⁶ "Fighting Commodities Speculation Priority, Not Bank Pay: Italy PM," *Dow Jones International News* (September 8, 2009).

¹²⁷ Jagger and Frean, "Sarkozy back-pedals over his demands for worldwide cap on banking bonuses," *The Times* (September 25, 2009), p. 2.

- The deferral period should be at least three years with at least half paid in the form of restricted shares rather than cash.
- Cash payments should be subject to clawback provisions.

The FSB recommendations did not end the banking-bonus controversies. In November 2009, the United Kingdom adopted new rules requiring banks to publicly disclose the number of employees earning more than £1 million (€1.05 million).¹²⁸ On 9 December, the British Government announced plans to impose a one-time 50% corporate tax on all banking bonuses above £25,000 (€26,250); the UK Treasury estimated that tax would affect between 20,000 and 30,000 bank employees, and would raise £550 million (€578 million). Two days later, France imposed a similar one-time 50% corporate tax on banking bonuses above €27,500, using a narrower definition of “bankers” (as “market operators trading financial instruments that could affect the bank’s risk exposure”) and expected to affect between 2,000 and 3,000 such bankers.¹²⁹ On the same day, Finland’s Financial Supervisory Authority announced it would be imposing rules to ensure that banking bonuses would be composed primarily of fixed salaries (and not bonuses).¹³⁰

4.2.2. The “Final” Rules

The FSB’s proposals were designed as an international framework, leaving it to each country to pass country-specific legislation to implement it. Ultimately, in spite of the fact that President Obama had agreed to the FSB framework, the United States’s Federal Reserve (the key banking regulator in the United States) ultimately rejected the FSB recommendations, arguing that a single formula-based approach could exacerbate excessive risk taking.¹³¹ However, most EU countries embraced the recommendations and committed to have legislation in effect by early 2010. By late 2009, German banks agreed to voluntarily

¹²⁸ The UK Treasury was slow in finalizing the new legislation, effectively delaying the new disclosures until Spring 2012. See Parker and Goff, “UK delays bankers’ bonus scrutiny,” *Financial Times* (September 15, 2010), p. 15.

¹²⁹ Castle, Bennhold and Erlanger, “France joins U.K. to curb big bonuses by the banks; Combined assault aimed at pressuring others to limit financial institutions,” *International Herald Tribune* (December 11, 2009a), p. 4; Castle, Bennhold and Story, “France joins Britain in a levy on bonuses; United call for bank tax is meant to raise pressure on U.S. and other nations,” *International Herald Tribune* (December 12, 2009b), p. 11; Hall, “French government backs bonus windfall tax,” (December 16, 2009).

¹³⁰ Esmerk, “Finland: Banking and insurance sector bonuses to be restricted,” *Esmerk Finnish News* (December 11, 2009).

¹³¹ Braithwaite, Guha and Farrell, “Fed rejects global formula for bonuses,” *Financial Times* (October 22, 2009).

adopt the FSB recommendations ahead of formal legislation, and the Italy's central bank began pressuring its country's six largest banks to comply immediately.¹³² By March 2010, eight G20 countries – including the UK, France, and Germany – had adopted new compensation regulations consistent with the FSB recommendations. In July 2010, the European Parliament approved pay restrictions for all banks in the 27-member European Union.

The Committee of European Banking Supervisors (CEBS) released its final bank compensation rules on the 10 December 2010. They were effective from 1 January 2011 and are intended to cover bonuses paid in 2010. The rules are predicated on the assumption that “excessive and imprudent risk-taking in the banking sector has led to the failure of individual financial institutions and systemic problems in Member States and globally.” CEBS took the view that “inappropriate remuneration structures of some financial institutions” contributed to such excessive risk-taking and the financial crisis. The guidelines on Remuneration Policies and Practices are in excess of 80 pages, and were produced after a period of consultation.¹³³

The CEBS rules state that a minimum of 40% to 60% of variable pay must be deferred over three to five years, and subject to forfeiture based on future performance. The precise the deferral percentage and deferral period depends on each persons contributory risk profile. In addition, at least 50% of the variable pay (deferred or not) must be paid in the form of stock or other share-based instruments subject to “retention periods.” In combination, these guidelines limit the upfront cash portion of bonuses to as little as 20% of the total (that is, half of the non-deferred portion of pay), much of which would be needed to pay the income taxes on the vested but nontransferable stock grants.

The CEBS guidelines apply to senior executives, managers, most traders and credit officers and all employees whose activities (either individually or collectively) can affect the institution's risk profile. For banks based in the European Union, the guidelines apply to their worldwide staff and not just those working in Europe. For banks based outside the European Union, the guidelines apply to all EU-based employees and also to executives with

¹³² Wilson, “German banks set to speed up pay reform,” *Financial Times* (December 10, 2009b); “C-bank calls upon Italian banks to stick to managers' pay rules,” (October 29, 2009). Italy's UniCredit indicated that it was already in full compliance “Unicredit: New Salary Regulations Already Implemented,” *ANSA - English Corporate News Service* 2009);

¹³³

<http://www.eba.europa.eu/cebs/media/Publications/Standards%20and%20Guidelines/2010/Remuneration/Guidelines.pdf>.

significant management responsibilities in Europe (even if they are based outside of Europe). There are also signs that the European Union will continue to develop its interventionist strategy towards banks. EU financial services chief Michel Barnier said in February 2011: “we are going to do an evaluation in several months to see if we have to go further.”¹³⁴

In addition, the UK government continues to develop its strategy towards UK banks. In early 2011 the UK’s Finance Minister announced details an agreement between the government and the United Kingdom’s four biggest banks: HSBC, Barclays, Royal Bank of Scotland and Lloyds Banking Group. The plan is called Project Merlin.¹³⁵ The deal covers bank lending policies (especially to small businesses), bonus arrangements and pay transparency. Under Project Merlin, banker’s variable compensation will be linked explicitly to performance, with a significant fraction of the bonus deferred into stock and subject to long vesting periods. Paid bonuses will also be subject to a clawback provision, that can triggered under certain circumstances. In addition, the ‘Merlin Banks’ have committed to increased pay transparency from, and including, 2010. The remuneration details of the Executive Directors and (on an unnamed basis) the five highest paid “senior executive officers” will be disclosed. The inclusion of the five highest paid executives below board level goes farther than international best-practice compensation disclosure requirements. More generally, the UK government is deliberating the future structure of British banking. In June 2010, the British Chancellor of the Exchequer announced the creation of the Independent Commission on Banking, chaired by the economist Sir John Vickers. It is tasked with investigating structural and related non-structural reforms to the UK banking sector to promote financial stability and competition. It will report by the end of September 2011.

4.3. How Incentive Pay Can Increase Risk (and How to Fix It)

The global outrage over banking bonuses reflects, in part, the suspicion that the banking bonus culture created incentives for excessive risk taking that led to the meltdown of world financial markets. There are two ways that bonuses – or incentive compensation more broadly – can create incentives for risk taking. The first way is rewarding people using performance metrics that implicitly (or explicitly) reward risky behavior, such as paying mortgage brokers based on the number of loans they write, rather than for writing loans that

¹³⁴ Wall Street Journal Online, 10 February 2011

<http://online.wsj.com/article/SB10001424052748704858404576134471128330408.html>.

¹³⁵ Project Merlin: http://www.hm-treasury.gov.uk/d/bank_agreement_090211.pdf (Retrieved 10 February 2011).

borrowers might actually pay back. The second way is through asymmetries in rewards for good performance and penalties for failure, as suggested by the title of Cuomo (2009) Report (“The ‘Heads I Win, Tails You Lose’ Bank Bonus Culture”). In this section, we will analyze these two elements in detail and discuss how compensation can be structured to mitigate risk-taking.

Before describing how compensation plans can be improved to alleviate problems with both asymmetric rewards and penalties and performance measurement problems, it is worth noting that the challenge historically has been in providing incentives for executives to take *enough* risk, not too much risk. Executives are typically risk-averse and undiversified with respect to their own companies’ stock-price performance. On the other hand, shareholders are relatively diversified, placing smaller bets on a larger number of companies. As a result, executives will inherently be “too conservative” and want to take fewer risks than desired by shareholders. Indeed, stock options (or other plans with convex payouts) have long been advocated as ways to mitigate the effects of executive risk aversion by giving managers incentives to adopt rather than avoid risky projects (see, for example, Hirshleifer and Suh (1992)). Similarly, there is a long history of attempts to document an empirical relation between such convexities and actual risk-taking incentives, and the results have been relatively modest.¹³⁶ These studies have covered a wide range of industries and time periods; whether the results hold for financial services in the early 2000s is an empirical issue.

4.3.1. Performance Metrics That Reward Risk-taking

Incentive compensation can create incentives for risk taking when bonuses are paid out on the basis of inappropriate performance measures. For example, in the years leading up to its dramatic collapse and acquisition by JPMorgan Chase at fire-sale prices, Washington Mutual excelled at providing loans and home mortgages to individuals with risky credit profiles.¹³⁷ WaMu mortgage brokers were rewarded for writing loans with little or no verification of the borrowers assets or income, and received especially high commissions when selling more-profitable adjustable-rate (as opposed to fixed-rate) mortgages. After launching the “Power of Yes” campaign in January 2003, the revenue from the bank’s home-

¹³⁶ DeFusco, Johnson and Zorn (1990) find some evidence that stock-price volatility increases, and traded bond prices decrease, after the approval of executive stock option plans. Similarly, Agrawal and Mandelker (1987) find some evidence that managers of firms whose return volatility is increased by an acquisition have higher option compensation than managers whose volatility declined

¹³⁷ The information in this paragraph is based on Goodman and Morgenson, “By Saying Yes, WaMu Built Empire on Shaky Loans,” *New York Times* (December 27, 2008).

lending unit grew from \$700 million to almost \$2 billion in less than a year, and its adjustable-rate loans grew from 25% of WaMu's new home loans in 2003 to over 70% by 2006. Most of WaMu-originated loans were packaged and sold to Wall Street; WaMu routinely pressured appraisers to generate inflated property values so that these packaged loans would appear less risky. Nonetheless, the value of bad loans on WaMu's books grew from \$4.2 billion in mid-2007 to over \$11.5 billion in mid-2008. Regulators seized the bank in September 2008, selling its assets to JPMorgan for \$1.9 billion – a year before WaMu's market capitalization had exceeded \$30 billion.

The basic incentive problem at WaMu was a culture and reward system that paid people to write loans rather than to write “good loans” – that is, loans with a decent chance of actually being paid back. In the end, WaMu got what it paid for: illustrating the “folly of rewarding ‘A’ while hoping for ‘B’” (Kerr (1975)). Similar scenarios were being played out at Countrywide Finance, Wachovia, and scores of smaller lenders who collectively were not overly concerned about default risk as long as home prices kept increasing and as long as they could keep packaging and selling their loans to Wall Street. But, home prices could not continue to increase when prices were being artificially bid up by borrowers who could not realistically qualify for or repay their loans. The record number of foreclosures in 2008, and the associated crash in home values, helped send the US economy (and ultimately the global economy) into a tailspin.

In the current anti-banker environment, it has become fashionable to characterize plans such as those at Washington Mutual as promoting excessive risk taking. But, the problems with paying loan officers on the quantity rather than the quality of loans is conceptually identical to the well-known problem of paying a piece-rate worker based on the quantity rather than the quality of output. Put simply, these are performance-measurement problems, not risk-taking problems, and characterizing them as the latter leads to impressions that the problems are somehow unique or more important in the banking sector, when in fact they are universal. Performance-measurement problems do not discriminate between non-financial and financial firms.

A similar set of performance-measurement issues occurs when executives (or traders or investment bankers) are paid on short-term rather than long-term results. For example, bankers trading in illiquid assets might be rewarded on the estimated appreciation of the assets on the bonus-payment date, which may bear little resemblance to the gain (or loss) ultimately realized. If the traders are not held accountable for the long-run value consequences of their actions, they will predictably focus on the quick (if illusory) profit.

Interestingly, this fixation on short-term results is not usually considered a “risk” problem: indeed, the classic example is the CEO nearing retirement who cuts R&D spending (thus lowering risk) to increase short-term accounting profits at the expense of long-run value (Dechow and Sloan (1991)).

The “solution” to the performance measurement problems discussed above (brokers rewarded to write too many mortgages, or traders reward on short-term results) is to design pay plans that hold employees accountable for the long-run consequences of their actions. Such solutions can be difficult to implement: consider, for example, that it might take thirty years for broker to know if the mortgage was actually repaid. But, at the very least the brokers and traders should be held accountable for results beyond the first year.

A closely related set of performance-measurement issues occurs where the executive is paid “too much” in a prior year, due to revisions in performance data not apparent until after the bonus was paid. Such revisions include, but are not limited to, formal restatements of accounting numbers such as earnings or revenues due to mistakes, over-optimistic assumptions, “managed earnings,” outright fraud or short-term oriented decisions by management that generated profits in an earlier period but lead to substantial long-run value destruction. Boards must always reserve the right to recover the ill-gained rewards in these situations. These ex post adjustments to already-paid bonuses have become known as “clawbacks” since the company is “clawing back” rewards that had already been paid. In the United States, clawbacks were introduced in the 2002 Sarbanes-Oxley Act and significantly expanded in the 2010 Dodd-Frank Act. In practice, clawbacks have proved to be hard and costly to enforce, especially for executives who have paid taxes on (or otherwise spent) erroneously awarded bonuses and who may have left the firm.

Finally, it is worth mentioning how financial innovation has contributed to performance measurement problems. As an example, in the early 2000s mortgages were increasingly pooled together and sold as mortgaged-back securities. While such “securitization” can provide for efficient ex post risk allocation, it creates ex ante “moral hazard” problems since the loan officer will care only about (and be only reward on) the quantitative measures of creditworthiness required for securitization, and will ignore important qualitative aspects that would be considered important if the bank were intending to hold the loan in its own portfolio.¹³⁸ The loan officer was even further removed from the ultimate repayment when the

¹³⁸ The moral hazard problem in securitization is limited by “early pay default” clauses that require originators to repurchase loans becoming delinquent within 90 days of securitization (Piskorski, Seru and Vig (2010)). We

mortgage-backed securities were restructured as a collateralized-debt obligation (CDOs) and sold to investors in difference tranches according to their purported risk.

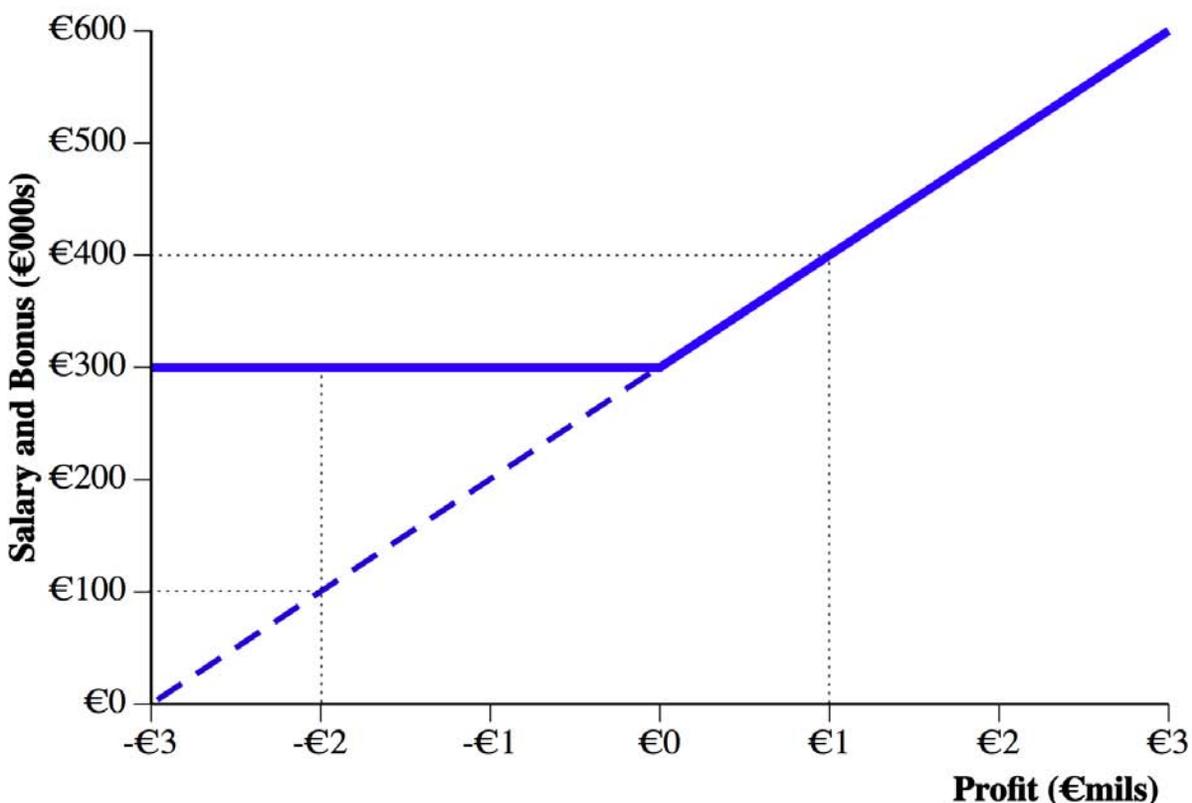
4.3.2. Asymmetric Rewards and Penalties

When executives receive rewards for upside risk, but are not penalized for downside risk, they will naturally take greater risks than if they faced symmetric consequences in both directions. The classic example of asymmetries (or what economists call “convexities”) in the pay-performance relation implicit in stock options, providing rewards for stock-price appreciation above the exercise price, but no penalties (below zero) for stock-price depreciation below the exercise price. Executives with options close to expiration that are out of the money have strong incentives to gamble with shareholder money; executives with options that are well in the money have fewer such incentives.

To show how asymmetries in rewards and penalties can cause excessive risk taking, the solid line in Figure 4.1 depicts the compensation structure for a hypothetical trader with a base salary of €300,000 and a cash bonus equal to 10% of his (positive) trading profits. Suppose the trader is considering a trade that will generate €1 million in profits with 50% probability, and €2 million in *losses* with 50% probability. This trade has an expected value of -€500,000; it is clearly a bad gamble. But, since the trader gets a bonus of €100,000 when profits are €1 million (total compensation €400,000) and no bonus when profits are -€2 million (total compensation €300,000), his expected bonus is +€50,000 and it is a good gamble from his perspective.

also note that mortgage lenders such as Countrywide kept most of its mortgages in its own portfolio, and CDO underwriters such as Merrill Lynch held onto a large portion of its own mortgage-backed CDOs.

Figure 4.1 Typical compensation structure with asymmetric rewards and penalties



Note: Figure shows the (hypothetical) compensation for a trader with a base salary of €300,000 and a bonus of 10% of (positive) profits

The obvious solution (at least conceptually) to the dilemma in Figure 4.1 is to extend the “bonus line” so that the trader is punished for negative profits (as well as being rewarded for positive profits). The dashed line in the figure shows his potential compensation when his bonus is set to 10% of both positive and negative profits. In this case, the trader gets a “bonus” (actually a penalty) of -€200,000 when profits are -€2 million (total compensation €100,000). His expected bonus is -€50,000 and the trade is a bad gamble from his perspective. By making his bonus schedule linear for both positive and negative outcomes, we have eliminated the asymmetric rewards and penalties, thereby eliminating the incentives to take excessive risks.

While the solution in Figure 4.1 is obvious in theory, it is difficult to implement in practice because it effectively requires paying (or charging) “negative bonuses” when there are bad outcomes. Conceptually, negative bonuses can be implemented by asking the executive to write a check back to the company in bad years, but this scheme is difficult to implement, especially after the executive has paid taxes on the bonuses. A more palatable

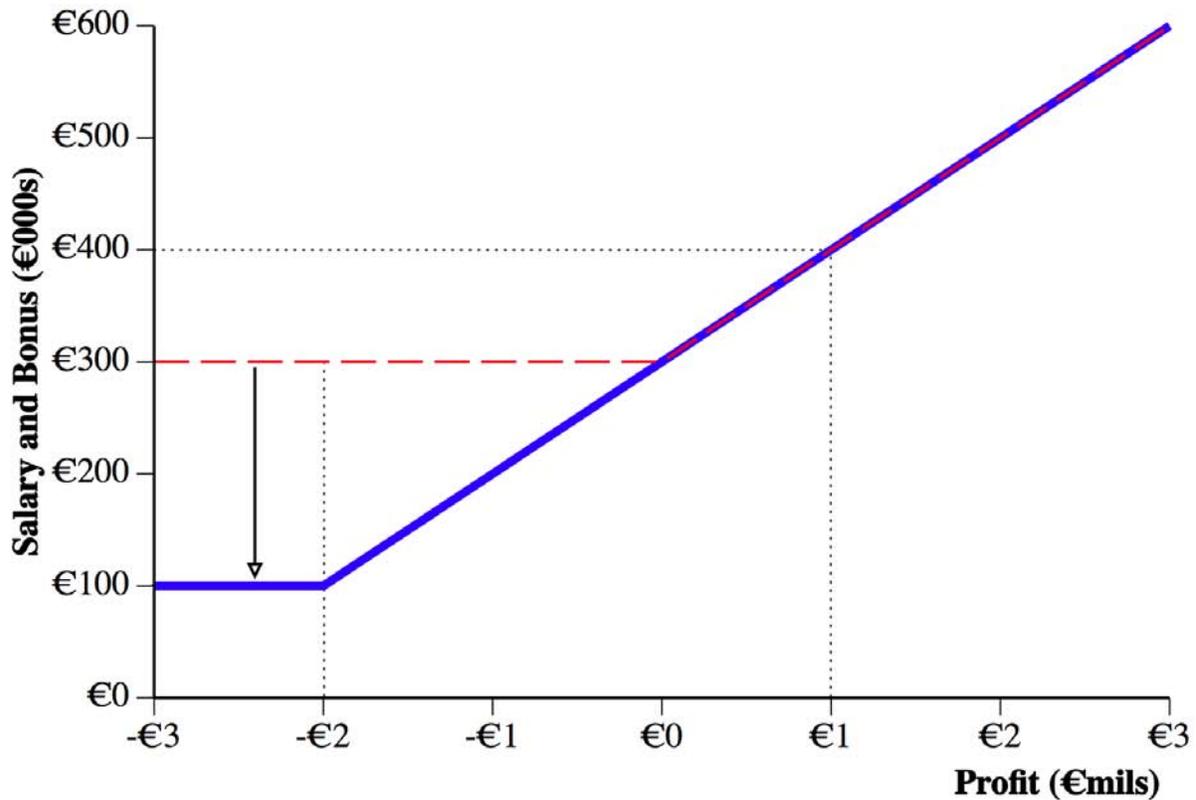
way of achieving negative bonuses is through deferred bonuses that are subject to partial forfeiture if performance deteriorates. An example of this type of plan is the “bonus bank” pioneered by Stern Stewart and Co. and first implemented by Coca Cola and Briggs and Stratton in 1988 and 1989.¹³⁹ Bonus banks are structured so that a positive bonus is not paid out entirely in cash each period. Instead the bonus is deposited into the executive’s bonus bank account. The executive receives a cash distribution equal to a fixed fraction of the account balance each year, while the remaining balance is “at risk” to fund negative bonuses in future years. To make this approach work, it helps if the formula produces positive bonuses over the first few years to build a healthy balance in the account. Alternatively, the executive could forgo some fraction of his base salary each year to pre-fund the bonus bank.

Negative bonuses are especially important in cases where the executive is paid “too much” in a prior year, due to accounting restatements or other revisions in performance data not apparent until after the bonus was paid. As discussed in Section 4.3.1, firms can attempt to recoup erroneously awarded bonuses through clawback provisions, which essentially involve taking employees (more often, former employees) to court. Bonus banks or deferrals have important advantages over clawback provisions. For example, bonus banks or deferrals are funded with pre-tax company money and are explicitly subject to forfeiture; therefore the company does not have to sue for recovery of already-paid bonuses. In addition, clawbacks are only relevant for erroneously awarded bonuses, and not for negative bonuses. Using the example in Figure 4.1, suppose that the trader receives a true profit of +€1 million in one year, and a true profit of -€2 million in the following year. The €100,000 bonus paid for the first year’s performance can not be “clawed back” from the employee after it has been paid; it is unlikely that any court would enforce recovery of such a bonus since it was appropriately paid based on actual performance. However, the portion of the €100,000 bonus that was deferred can be used to fund a negative bonus for the second year; the trader’s “bank balance” would be lowered by €200,000.

Figure 4.2 illustrates another way negative bonuses can be introduced into a compensation structure. Beginning with the solid line in Figure 4.1, suppose the company lowers the trader’s base salary from €300,000 to €100,000, while simultaneously giving him a 10% bonus on any profit exceeding -€2 million (as opposed to only on positive profit). Note that this trader will reject the gamble considered above (a 50%-50% chance of profits of €1 million or -€2 million), because his expected gain from taking the gamble is -€50,000.

¹³⁹ The Stern Stewart bonus banks are described in Stewart (1990) and Stewart (1991). Under the typical Stern Stewart plan annual bonuses are deposited into the bonus bank and the executive draws one third of the bank balance each year.

Figure 4.2 Lowering bonuses and increasing bonus opportunities can mitigate excessive risk taking



Note: Figure shows the (hypothetical) compensation for a trader with a base salary of €300,000 and a bonus of 10% of (positive) profits

The positive “bonus” that the trader receives for performance between -€2 million and zero is not really a bonus at all, but rather a penalty since his total compensation will be below his (assumed competitive) prior base salary of €300,000.

The arrangement in Figure 4.2 (low base salaries coupled with high bonus opportunities) is fairly representative of compensation structures commonly observed in financial institutions. It is important to recognize that – in terms of incentives to avoid excessive risks (or incentives to create value, for that matter) – the arrangement in Figure 4.2 is strictly superior to the arrangement in Figure 4.1 (higher base salaries coupled with lower bonus opportunities). In other words, to the extent that bankers are both rewarded for positive performance and penalized for poor performance, the traditional pay structure with low salaries and high bonus opportunities is the prescription for mitigating incentives to take excessive risks.

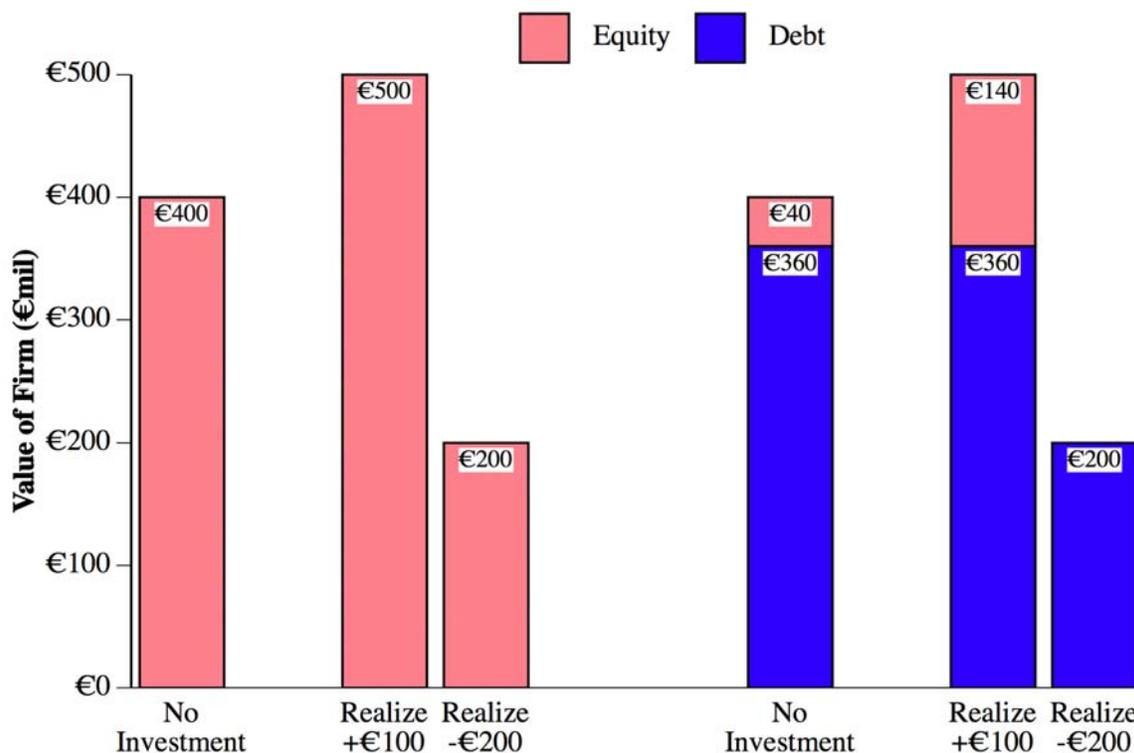
For senior executives, negative bonuses can be introduced by paying bonuses partially in stock or options, where the executive is precluded from selling the stock or exercising the

options for extended periods of time. These plans penalize executives when performance deteriorates, since the value of the stock or options will naturally fall. In addition, the board can retain the right to cancel vesting of restricted stock or exercisability of options. Such plans have the important advantage of tying compensation to long-term shareholder wealth, thus generally providing incentives for executives to pursue investments that create value and to avoid investments that decrease value. However, for leveraged firms (or, for those implicitly protected by “Too Big Too Fail” guarantees), excessive focus on shareholder value can lead to inappropriate risk taking, as follows.

Figure 4.3 illustrates the incentives to take risks for two firms that differ by the amount of debt in their capital structure. Both firms begin with a total value of debt and equity of €400 million, and both are faced with an investment opportunity that has a 50% chance of a +€100 million payout, and a 50% chance of a -€200 million payout. If the firm makes the investment, the value of the firm will rise to €500 million if it realizes the +€100 million payout, but fall to €200 million if it realizes the -€200 million payout.

The firm on the left in Figure 4.3 is an all equity firm, implying that shareholders receive all the gain and incur all the cost of their investment decisions. If the probabilities and payouts are publicly known, the value of the company’s equity should fall 12.5% to €350 million (i.e., the expected future value of the firm’s equity) when it takes the investment (but before the payouts are realized). Providing executives with incentives to maximize shareholder value in this case leads to the correct investment decision (which is to reject the negative net-present-value investment opportunity).

Figure 4.3 How debt (or “Too Big to Fail” guarantees) can promote excessive risk taking



Note: Figure shows the (hypothetical) compensation for a trader with a base salary of €300,000 and a bonus of 10% of (positive) profits

The firm on the right in Figure 4.3 is a leveraged firm with 90% debt and only 10% equity. Shareholders again receive all the gain from positive payouts, because the debtholders hold a “fixed” claim limited to €360 million of the firm’s assets. But, since shareholder losses are limited to the value of their equity, the loss for negative payouts exceeding the value of equity is borne by debtholders. In this case, the expected value of the equity after taking the investment is €70 million, representing a 75% return on their initial investment. Providing executives with incentives to maximize shareholder value in this case leads to the incorrect investment decision.

The incentive problem illustrated in Figure 4.3 was identified by Jensen and Meckling (1976) as the “Agency Cost of Debt” and represents the classic conflict of interest that exists between a company’s shareholders and its debtholders: shareholders in a leveraged firm prefer riskier investments than those that would maximize firm value, while debtholders prefer safer investments than those that would maximize firm value.¹⁴⁰ While the agency

¹⁴⁰ To see the latter point, suppose that the positive payout was €300 million rather than €100 million, so that the investment would increase the expected value of the firm (debt plus equity) by +€50 million. Debtholders – who incur part of the downside loss but get none of the upside – would be against this NPV > 0 investment.

cost of debt is clearly valid conceptually, there is very little empirical evidence that leverage indeed leads to excessive risk taking, for several reasons. First, precisely because the shareholder-debtholder conflicts are well understood, the potential problem is mitigated through debt covenants and constraints on how the proceeds from debt financing can be used. Moreover, since the problem is “priced” into the terms of the debt (with debtholders charging higher interest rates in situations where executives have incentives to take higher risks), firms anticipating repeat trips to the bond market are directly punished for their risky behavior.

In any case, the relation between risk taking and debt is not expected to be monotonic. In particular, executives in highly leveraged firms might consider large risks where the downside costs is largely borne by debtholders. However, they will avoid taking *small* risks that might trigger technical or actual default, since the costs associated with loss of control and financial distress are likely large compared to the small amount of costs they pass on to debtholders.

The incentive problem between shareholders and debtholders illustrated in Figure 4.3 also applies to implicit or explicit “Too Big To Fail” (TBTF) guarantees, in which large losses will ultimately be covered by government bailouts. The existence of such guarantees reduces the incentives of debtholders to monitor management or enforce debt covenants, since the government might be rationally expected to cover losses. In recognition of this potential TBTF problem, some economists (including the influential “Squam Lake Working Group on Financial Regulation” French, et al. (2010)) have recommended that deferred banking bonuses “should not take the form of stock or stock options,” but rather be a “fixed dollar amount” that would be forfeited if the bank “goes bankrupt or receives extraordinary government assistance.” The motivation for this recommendation is that holding deferred compensation in the form of a fixed claim with priority in bankruptcy below senior debtholders will mitigate equity-based incentives for excessive risk taking by aligning the interests of managers and debtholders.

We agree that a portion of all banking bonuses should be deferred to both (1) facilitate the recovery of prior-year bonuses granted erroneously, and (2) provide a fund to finance future negative bonuses, should they be required. However, we disagree that the deferred portion should necessarily be in the form of cash rather than stock:

- Conceptually, shareholder value can be created by (1) investing in positive net present value projects that increase the value of both debt and equity claims, or (2) shifting wealth from debtholders to shareholders through risky investments. Granting unvested stock and unexercisable options to executives provide incentives for (1) as well as (2).

Since the opportunity cost of following the Squam Lake recommendation is to provide less pay tied to shareholder return, the implicit assumption must be that the problems associated with (2) are large compared to the benefits associated with (1). We are not aware of evidence that supports this assumption, within or outside of the financial services sector.

- Indeed, while the risk-taking incentives associated with debt are conceptually indisputable, there is no widespread evidence that executives in highly leveraged firms indeed take larger risks than executives in less-leveraged firms. In addition, there is no evidence that the value of the firm increases when executives are paid in fixed claims (e.g., salaries and deferred cash compensation) than in equity-based claims.
- Moreover, the evidence suggests that executives in the most-levered firms with the most debtholder controls (e.g., LBOs in the 1980s) were compensated primarily in equity rather than fixed instruments. If aligning the interests of executives and debtholders through payment in fixed claims was a first-order concern, we would have seen its use show up in some sector and in some time period. To our knowledge, it has not.
- We are also not aware of any direct evidence that the existence of TBTF guarantees contributed to excessive risk taking in the recent crisis. There is some evidence that explicit government insurance was a factor contributing to the US savings and loan meltdown in the 1980s.¹⁴¹ However, the TBTF guarantee is not a certain commitment (such as FDIC insurance) but rather a vague belief that government assistance might be forthcoming if the firm gets into sufficient trouble. To our knowledge, there is no evidence that this vague belief of an implicit guarantee has influenced executive decisions. Regulating compensation based on a vague belief represents an unwarranted intrusion into private business.

The idea that a substantial portion of banking bonuses should be deferred has gained a great deal of traction: under the new European rules up to 60% of bonuses are required to be deferred for up to five years (depending on the individual), and under the proposed US rules at least 50% of the bonuses are required to be deferred for up to three years. The new rules have not, however, adopted the Squam Lake recommendations regarding the form of the

¹⁴¹ There is some evidence that government guarantees can affect risk taking in related contexts. For example, Esty (1997) argues that the greater profit volatility realized by stock-owned rather than mutual owned US savings and loan organizations in the 1980s related to ownership structure and the fact that most depositor claims were fully insured by the Federal Savings and Loan Insurance Corporation (FSLIC, the S&L counterpart to the FDIC).

deferral. In particular, the European authorities require that at least 50% of all bonuses (deferred and non-deferred) be paid in the form of shares (or share-equivalents) with transferability restricted for at least three years. The proposed US deferral rules do not (yet) specify the form of the deferrals, and most “early adopters” (Morgan Stanley, Goldman Sachs, etc.) have embraced shares or share-equivalents as preferred forms of deferrals.

4.4. Did Banking Bonuses Cause the Financial Crisis?

The hypothesis that compensation arrangements at financial institutions precipitated the financial crisis has gained considerable political and popular appeal. Ultimately, amassing empirical evidence and performing appropriate statistical causal tests will assess the veracity of such claims. The process of collecting data and sifting through the evidence, however, has only recently begun. At present there is little scientific consensus on the exact causal effect of bank compensation practices on precipitating the financial crisis. If anything, we believe the available evidence tilts against the view that pay practices played a major role in triggering the financial crisis.¹⁴²

The heavy reliance on bonuses has been a defining feature of Wall Street compensation for decades, going back to the days when investment banks were privately held partnerships. Such firms kept fixed costs under control by keeping base salaries low and paying most of the compensation in the form of cash bonuses that varied with profitability. This basic structure remained intact when the investment banks went public, but the cash bonuses were replaced with a combination of cash, restricted stock, and stock options. The fact that (1) the financial meltdown involved banks, (2) banks rely heavily on bonuses, and (3) pay levels in banks are high, have led many in the political sector or popular press to presume that banking bonuses much have caused the crisis and thus needs to be reformed. However, “guilt by association” is not an accepted scientific inquiry, and the empirical evidence in support of such claims is currently not overwhelming.

Nascent studies investigating the relation between bank executive compensation and the financial crisis have produced mixed findings, in part due to different methods and data collection procedures. In the main, however, researchers have been (so far) unable to document a causal link between the structure of compensation in banks and the crisis. Fahlenbrach and Stulz (2011) investigate 95 US banks in 2006, and follow these through to

¹⁴² Recent papers include Fahlenbrach and Stulz (2011), Murphy (2009), Cheng, Hong and Scheinkman (2009), Bebchuk and Spamann (2010), Cai, Cherny and Milbourn (2010), Bell and Reenen (2010), and Adams (2009).

December 2008. They reject the hypothesis that compensation arrangements at US banks were fundamentally flawed. They find that CEOs with incentives that are better aligned to shareholders actually performed worse in the crisis. CEOs took decisions they felt would be profitable for shareholders *ex ante*, but ultimately these turned out to perform badly, *ex post*. If CEOs had advance knowledge that their decisions would not optimize shareholder value, then they would have taken actions to insulate their own personal wealth from adverse price movements. However, Fahlenbrach and Stulz find no evidence of unusual share selling or other hedging activity by bank executives in advance of the crisis. They also show that CEOs aggregate stock and option holdings is more than eight times the value of annual compensation. The amount of CEO wealth at risk prior to the financial crisis makes it improbable that a rational CEO knew of an impending financial crash, or knowingly engaged in excessively risky behavior.

Similarly, Murphy (2009) documents that executives in banks participating in the TARP program had “more to lose” (i.e., faced larger downside risks) than did executives in banks not participating (or executives outside of the banking sector). Again, if those bank executives had known about an impending crash, then one would have expected to observe them engaging in hedging activities to mitigate such risk – there is no systematic evidence they did so. Other data is consistent with this. Cheng, et al. (2009) find that executives with better incentives (which they defined based on residuals from annual compensation regressions) have higher CAPM betas, higher return volatilities, and are more likely to be in the tails of performance (with especially high pre-crisis performance, and especially low performance during the crash). Adams (2009) compares nonfinancial to financial firms from 1996 to 2007. She finds that governance arrangements in financial firms are typically no worse than in nonfinancial firms. Interestingly, she finds that controlling for firm size the level of CEO pay and the fraction of equity-based pay is actually lower in banks, even in 2007. Also, banks receiving bailout money had boards that were more independent than in other banks. Outside of the United States, Bechmann and Raaballe (2009) analyze CEO pay and performance in a sample of Danish banks, and also find that CEOs with more incentive-based compensation (and thus more to lose from poor performance) performed worse than other banks during the crisis. Therefore, while there appears to be a correlation between compensation structures and performance during the crisis, the companies faring the worst in the crisis are those with better (and not worse) executive incentives.

An alternative set of studies claim that bank compensation practices encouraged excessive risk taking (Diamond and Rajan (2009); Bebchuk and Spamann (2010) assert that the capital structure at financial institutions leads to risk-oriented behavior by executives,

claiming: “Equity-based awards, coupled with the capital structure of banks, tie executives’ compensation to a highly levered bet on the value of banks’ assets.” (Bebchuk and Spamann (2010), p. 1). Similarly, Cai, et al. (2010) argue that compensation structures are designed optimally from the shareholders point of view, but not necessarily for debt holders such as banks, bondholders, and depositors. With more reliance on debt and leverage in banking, they hypothesize a greater bias toward excessive risk-taking. These conceptual arguments are akin to the Jensen and Meckling (1976) agency cost of debt problem. However, it unclear that there is sufficient empirical evidence that compensation structures lead to such actions in practice. Moreover, it is not clear why these ‘special’ features of financial institutions became so acute in 2007 to trigger the crisis rather than at other times. Bhagat and Bolton (2011) investigate executive pay in the largest 14 U.S. financial institutions from 2000 to 2008, and analyze the buy and sell decisions of executives of their own bank’s shares. They find that CEOs are thirty times more likely to be involved in a sell transaction compared to a buy transaction, suggesting that CEOs believed their stock was over rather than under-valued – and this may have resulted in incentives to take excessive risks. In the United Kingdom Bell and Reenen (2010) show that increases in wage inequality is correlated to increases in bank bonuses. The clutch of new studies provides interesting insights. The challenge, however, is to show that a) in cross-section data that differences between financial and non-financial institution pay structures are sufficiently large to give rise to different executive behaviors and b) that in time-series data that there is a true causal relation between compensation practices *ex ante* and (well-defined) excessive risk-taking, *ex post*. As more data become available, we expect future articles to address empirically the precise relation between pay incentives at banks and risk-taking behavior.

As discussed in Section 4.3, the primary way that compensation structures might encourage excessive risk taking is through asymmetric rewards and penalties; that is, high rewards for superior performance but no real penalties for failure. Financial services firms provide significant penalties for failure in their cash bonus plans by keeping salaries below competitive market levels, so that earning a zero bonus represents a penalty, as illustrated in Figure 4.2. Indeed, much of the outrage over bonuses in financial services reflects the fact that, in most industries, a “bonus” connotes an extraordinary reward for extraordinary performance added on top of generous above-market salaries. But, the facts are that salaries in financial service firms represent a small portion of total compensation and the “bonuses” are not bonuses on top of normal salaries, but are rather a fundamental part of competitive compensation. Take away the bonuses, and the banks will have to raise salaries or find other ways to pay, or they will lose their top talent.

Table 4.4 Comparison of 2006 and 2008 Bonuses and Year-End Wealth for CEOs of Banking and Non-Banking Firms

	<i>EUROPE</i>		<i>UNITED STATES</i>	
	Banks	Non-Banks	Banks	Non-Banks
<i>Average Bonuses (€000s)</i>				
Number of CEOs	48	844	120	1,306
2006	€962.3	€451.2	€1,621.7	€1,001.8
2008	670.0	435.0	495.7	852.2
Difference	-292.4	16.1	-1,072.5	-929.8
	(-30.4%)	(-3.6%)	(-69.4%)	(-14.9%)
<i>Median Bonuses (€000s)</i>				
Number of CEOs	48	844	120	1306
2006	€592.0	€228.5	€488.4	€555.9
2008	96.3	214.5	14.5	409.1
Difference	-495.7	-14.0	-473.9	-146.8
	(-83.7%)	(-6.1%)	(-97%)	(-26.4%)
<i>Median Wealth (€000s)</i>				
Number of CEOs	42	708	120	1301
2006	€10,632.9	€3,981.6	€23,062.0	€11,710.6
2008	5,757.6	2,258.4	5,653.1	5,233.3
Difference	-4,875.4	-1,723.2	-17,408.9	-6,477.3
	(-45.9%)	(-43.3%)	(-75.5%)	(-55.3%)

Note: CEO Wealth is defined as the fiscal year-end value of the CEO's stock and restricted stock, plus the year-end intrinsic value of stock options. Sample includes all companies from Table 3.2 where there are sufficient data to calculate year-end portfolios. European data are from BoardEx; US data (including Black-Scholes values) are calculated by us based on year-end option holdings. Market Value is the year-end market value of the firm's equity. CEOs with zero holdings of stock and options (likely reflecting unavailable data) are excluded. Bonuses include payouts from both annual and longer-term (non-equity-based) incentive plans. Monetary amounts are in 2008-constant Euros; US dollar-denominated data are converted to Euros using the 2008 year-end exchange rate (€1 = \$1.3919).

Did banking CEOs, indeed, face real penalties for failure? Table 4.4 compares the average and median 2006 and 2008 bonuses, and the median year-end value of shareholdings plus the intrinsic value of options, for CEOs in European banks and non-banks and in US banks and non-banks. The average bonus for European banking CEOs fell by over 30% from 2006 to 2008, compared to a relatively modest 4% decline for non-banking CEOs. The median bonus for European banking CEOs fell 84% from nearly €600,000 in 2006 to only €96,000 in 2008, again compared to only modest declines in the non-banking sector.

Table 4.5 Incentives for Banking and Non-Banking CEOs, by Continent and Sector

	<i>EUROPE</i>		<i>UNITED STATES</i>	
	Banks	Non-Banks	Banks	Non-Banks
<i>ESTIMATED PAY-PERFORMANCE ELASTICITIES</i>				
Shareholder Return	0.442***	0.109***	0.415***	0.410***
Sales Growth	0.174	0.064	0.353*	0.387***
Δ (Return on Assets)	0.944	0.644***	5.767***	0.793***
<i>AVERAGE COMPOSITION OF 2003-2006 COMPENSATION</i>				
Base Salary	42%	50%	30%	28%
Bonuses	29%	20%	26%	24%
Equity-Based	21%	21%	37%	42%

Note: Data are based on same-CEO first-differences from 2003-2008. Pay-Performance elasticities are calculated from a regression of $\Delta \ln(\text{CEO Pay})$ on one or all three performance measures; regressions include year dummies and (for non-banks) additional controls for industry. For the purposes of these regressions, $(\text{Stock Return})_t$ is defined as $\ln(1+\text{Shareholder Return})$ for period t ; ΔROA is defined as the year-over-year change in ROA (defined as net income before extraordinary items plus interest divided by average assets over the year); and sales growth is defined as $\Delta \ln(\text{Sales})_t$. Monetary data are converted to 2008-constant US dollars, adjusted for inflation, and then converted to Euros using the 2008 year-end exchange rate ($\text{€}1 = \$1.3919$).

*, **, *** indicates that the pay-performance elasticity is significantly different from zero at the 10%, 5% and 1% levels, respectively.

Moreover, the European banking CEOs not only had more wealth to lose than their non-banking counterparts (median 2006 wealth in company stock of €10.6 million in banks compared to only €4.0 million in non-banks), but indeed they lost slightly more in percentage terms (46% compared to 43%).

The penalties were even greater for CEOs in US banks. From 2006 to 2008, the average and median bonus for US banking CEOs fell by 69% and 97%, respectively, companies to respective declines of 15% and 26% for non-banking CEOs. The median wealth for US banking CEOs fell €17.4 million (76%), compared to a median loss of only €6.5 (55%) for non-banking CEOs. Overall, the results for both European and American banking CEOs are inconsistent with the idea that banking executives faced rewards for success but no real penalties for failure.

In Table 3.7, we showed that – with the exception of Germany, Switzerland, and the United Kingdom – there is no evidence that bonuses for European CEOs is related to stock-price performance. Table 4.5 provides a similar analysis for the banking and non-banking subsamples. As shown in the table, the elasticity of cash compensation to shareholder value

is positive and significant for European banking CEOs; the estimated elasticity of .442 suggests that cash compensation increases by about 4.4% for each 10% increase in shareholder returns. Therefore, while we concluded in Section 3.2.3 that there was an absence of alignment between European CEOs and shareholders, the analyses in Table 4.4 and Table 4.5 suggest one sector with better alignment: banking. In particular, compared to non-banking CEOs, European banking CEOs have more wealth invested in company stock, faced larger penalties for poor performance, and have bonus plans that are more sensitive to company stock-price performance.

The results in Table 4.4 and Table 4.5 focus only on the CEO. While we obtain similar results for US senior executives below the CEO, we have no data on lower-level employees such as brokers and traders. It is certainly possible that performance measurement problems and asymmetries in rewards penalties drove risk-taking behavior in these lower levels, but there is no evidence that top-executive compensation led to excessive risk taking.

In January 2011, the US Financial Crisis Inquiry Commission issued its report on the causes of the financial crisis Angelides, et al. (2011). The Commission's final report was over six hundred pages long, containing twenty-two chapters and supporting material. While providing no direct evidence that pay practices were complicit in the crisis, the report takes a "guilt by association" approach, showing a widening pay gap between bankers and non-bankers and generally criticizing banking bonuses for being too short-term oriented. Six of the ten Commission members voted to accept the report and four members dissented; the disagreement was serious enough for two dissenting statements reports to be issued. The first dissenting report (Hennessey, Holtz-Eakin and Thomas (2011)) identified ten main factors that caused the crisis: a credit bubble, a housing bubble, non-traditional mortgages, credit rating and securitization, financial institutions correlated risk, leverage and liquidity risk, risks of contagion, common macroeconomic shocks, a severe financial shock, and the financial shock causing the economic crisis in the real economy. Executive and other compensation practices did not figure as a major part of the problem. The second dissenting report (Wallison (2011)) argued that "Wall Street greed and compensation policies" was at most a trivial contributor to the crisis compared to the growth in non-traditional mortgages.

The precise causes of the global financial crisis will be debated for decades (just as the precise causes of the 1930s depression are still being debated), and it is beyond both the scope of this report and of our abilities to provide a detailed account here. However, the evolving consensus suggests that the risk-taking contributing to the crisis reflected a combination of factors (at least in the United States) including social policies on home

ownership, loose monetary policies, “Too Big to Fail” guarantees, and poorly implemented financial innovations such as exotic mortgages, securitization, and collateralized debt obligations. These different factors, however, have nothing (or little) to do with the banking bonus culture.

Indeed, a reasonable description of the crisis is that it was driven not by excessive risk taking but rather a epic mistake: the assumption or expectation that housing prices would continue to appreciate.¹⁴³ Ultimately, home prices that were being artificially bid up by borrowers who could not realistically qualify for or repay their loans could not continue to increase. When home prices began falling, borrowers who previously would have refinanced or sold their homes at a profit could do neither, which escalated the pace of foreclosures. Banks who would previously break even on foreclosed properties now faced huge losses, and the investors of the associated mortgaged-back securities or CDOs also suffered. The globalization of world trade and long-term capital meant that banks and investors worldwide were affected by the burst in the US housing bubble (Turner (2010)).

The maintained assumption of continued appreciation was a mistake of epic proportions, obvious in hindsight but not during the housing boom. But, it was not a mistake driven by banking bonuses, and most large commercial and investment banks (and their executives) suffered greatly. Indeed, to the extent that compensation systems contributed to the crisis (such as the aforementioned loan officers at Washington Mutual), it was because the bonuses themselves were designed under the assumption of continued appreciation, and not that the bonuses *led* to the assumption of continued appreciation.

4.5. *Should Compensation in Banks Be Reformed?*

Compensation practices in financial services can certainly be improved. For example, cash bonus plans in financial services can be improved by introducing and enforcing bonus banks or “clawback” provisions for recovery of rewards if and when there is future revision of critical indicators on which the rewards were based or received. Indeed, in the wake of the financial crisis in late 2008, several financial institutions introduced clawback provisions allowing the firm to recover bonuses paid to traders and other employees on profits that subsequently proved to be incorrect. In November 2008, UBS introduced a “bonus malus” system in which at least two-thirds of senior managers’ bonuses in good years are “banked”

¹⁴³ Warren Buffet, for example, called this assumption a “mass delusion” shared by “300 million Americans,” and Citigroup’s CEO called the collapse in housing prices “wholly unanticipated” (Angelides, et al. (2011), p. 3).

to offset possible losses in subsequent bad years.¹⁴⁴ In December 2008, Morgan Stanley introduced a clawback feature into its bonuses for 7,000 executives and employees, in which the company could recover a portion of bonuses for employees causing “a restatement of results, a significant financial loss or other reputational harm to the firm.”¹⁴⁵ In January 2009, Credit Suisse began paying bonuses in illiquid risky securities that lose value in bad years and could be forfeited if employees quit their job or were fired.¹⁴⁶ We applaud these moves as a good start towards a general adoption of clawback provisions.

Bonus plans in financial services can also be improved by ensuring that bonuses are based on value creation rather than on the volume of transactions without regard to the quality of transactions. Measuring value creation is inherently subjective, and such plans will necessarily involve discretionary payments based on subjective assessments of performance.

Compensation practices in financial services can undoubtedly be improved through government oversight focused on rewarding value creation and punishing value destruction. However, it is highly unlikely that compensation practices can be improved through increased government rules and regulations. Indeed, governments on both sides of the Atlantic have a long history of attempts to regulate executive pay that have systematically created unanticipated side effects that have generally led to higher pay levels and less-efficient incentives.

Part of the problem of governmental regulation of pay is that such interventions – even when well intended – always creates unintended (and usually costly) side effects. In Section 2, for example, we saw how Congressional efforts in the United States to reduce golden parachutes in fact guaranteed their expansion, and how the explosion in option grants can be largely traced to efforts to reduce pay levels. Similarly, the new European bonus rules and proposed US rules – both calling for a large share of bonuses to be deferred – is predictably leading to higher base salaries.¹⁴⁷

More importantly, regulation is often designed to be punitive rather than constructive, and is inherently driven by politicians more interested in their political agendas rather than

¹⁴⁴ “UBS to change to the way it pays senior managers,” *Associated Press Newswires* (November 17, 2008).

¹⁴⁵ Farrell and Guerra, “Top Executives at Morgan Stanley and Merrill forgo their bonuses,” *Financial Times* (December 9, 2008).

¹⁴⁶ Harrington, “Credit Suisse to loan cash bonuses,” *Sunday Telegraph* (January 18, 2009).

¹⁴⁷ For example, in early 2011, Bank of America, Citigroup, Morgan Stanley, and Goldman Sachs all announced significant increases in base. See, Rappaport, “Goldman Boosts Partners’ Base Pay,” *Wall Street Journal* (January 29, 2011), p. B2.

creating shareholder value. For example, the draconian restrictions on pay for US TARP recipients – and the 50% supplemental taxes on banking bonuses in the United Kingdom and France – are clearly punitive and politically motivated. The new European bonus rules, which in some cases limit the current cash portion of bonuses to no more than 20% of the total bonus, also seems unduly harsh, leaving recipients without enough cash to pay for the taxes owed on the contemporaneous grant of non-transferable shares. As another example, the provision in the Dodd-Frank Act that forbids companies from offering incentive plans that motivate inappropriate risk-taking, and then explicitly defines “excessive compensation” as an “inappropriate risk” deliberately conflates the legitimate concerns of taxpayers to improve incentives with a political agenda to reduce levels of pay.

It is important to recognize that the outrage over banking bonuses is emanating not from shareholders but from politicians, labor unions and the general public. While such outrage is understandable – especially for banks paying bonuses after being bailed out by taxpayers – it is often driven by jealousy and envy and not by concerns about maximizing value or even protecting taxpayer interests in the future. Moreover, even for those who believe that CEOs can effectively set their own salaries, there is no credible evidence that the compensation arrangements for lower-level bankers, traders, underwriters, or brokers are set in anything other than a highly competitive market for talent. For better or worse, there is an extremely scarce supply of individuals with the highly specialized skills required to understand and trade in increasingly complex derivative instruments, and the market for such individuals is global with little respect for international boundaries. Restricting banking bonuses for TARP recipients in the United States led to a drain of talent from those banks to private equity and unrestricted banks (including those that quickly paid the money bank). Similarly, punitive bonus taxes or restrictions in Europe or the United States will lead to a drain of talent from those countries to other countries or other sectors.

To summarize, pay practices in the financial-services sector can clearly be improved, and many of the largest banks have made significant changes in their plans in anticipation, or perhaps to pre-empt, government intervention. Ultimately, the question is not whether banking compensation should be reformed, but whether the government is the efficient agent of reform. We conclude that improvements in executive compensation will best emanate through stronger corporate governance, and not through direct government intervention.

5. Summary and Policy Implications

5.1. *Putting the Pay Controversies in Context*

The 2008-2009 financial crisis has created a public uproar over top-executive pay packages and led to calls for reform of executive pay in Europe and the United States. Anger over bonuses paid to executives at bailed-out banks led to supplemental taxes on banker bonuses in the United Kingdom and France, outright prohibitions on bonuses or other incentive payments for US executives in firms receiving government bailouts, and mandated deferrals of bonuses in both Europe and the United States. In addition, the crisis has sparked demand for increased government regulation of executive pay more broadly on both sides of the Atlantic.

A primary purpose of this report is to add “context” to the ongoing debate over CEO pay. The current controversy is not the first – nor will it be the last – time that executive compensation has sparked outrage and calls for regulation in the United States and Europe. For this reason, we devoted considerable attention on the evolution of executive pay on both continents. We showed, for example, that many features of executive pay in the United States – including the explosion in the use of stock options that led to the dramatic increase in pay levels in the 1990s – can be traced directly to government accounting, tax, disclosure, and social policies. Similarly, the rise and fall of share options in the United Kingdom, France, and Italy can also be tied to government policy. In many cases – beginning in the 1950s in the United States and continuing through the 1990s in Europe – government intervention has taken the form of conferring, and then removing and maybe conferring again, tax advantages for options by having the gains taxed as capital gains rather than as ordinary income.

A complete explanation of why executive pay has increased is beyond the scope of this report. We have focused on the importance of stock options, taxes, accounting and regulation, as these seemed especially salient. We have also contrasted the US experience to that in Europe. A challenge for future research is to examine the potential importance of other determinants of CEO pay. These include “superstar” effects (where the sellers of CEO talent are not perfect substitutes and market reach is large) especially in the finance sector; the role of rent seeking, and the role of managerial power. Especially important to study are changes in the relative demand and supply of managerial talent as this directly affects CEO wages. It would be interesting to know the extent that the forces driving CEO pay are similar

to those affecting the general wage distribution (e.g. skill biased technical change, labor market institutions, and globalization), as discussed in a large literature by labor economists.

Based on a comprehensive comparison of pay spanning six years and covering approximately 1,500 US firms and 900 firms from nine European countries, we showed that US CEOs are paid only modestly more than their European counterparts after controlling for firm, ownership, and board structures. Moreover, while more than half of the average CEO's pay in the United States comes in the form of stock options or restricted stock, we find that European CEOs receive only about a fifth of their pay in stock or options. Indeed, we conclude that most of the difference in cross-continental pay levels is attributable to the higher use of stock and options in the United States.

Our finding that the "US Pay Premium" is largely "explained" by the fact that US CEOs have different pay structures shifts the question to another vexing issue: Why do American executives receive more equity-based compensation than do European executives? We consider (and at this stage mostly dismiss) a variety of agency-theoretic explanations that would require European executives to be less productive and more averse to risk and effort than their American counterparts.

Ultimately, we conclude that the early 1990s created a "perfect storm" for an explosion of stock option grants in the United States for not only executives but also for lower-level managers and employees. We focus on four casual factors that seem particularly important. First, the shareholder movement borne from the takeover market in the 1990s called for companies to tie CEO pay more strongly to stock-price performance. Second, the SEC eliminated the six-month holding requirement for shares acquired by exercising options. Third, Congress caved to shareholder pressure, exempting options from the new \$1 million deductibility limit on executive compensation. Fourth, since options were not recorded as an expense on accounting statements, they were treated as "free" or cheap to grant (when, in fact, they are an especially expensive economic way to deliver compensation). The explosion in option grants continued unabated until the burst of the Internet bubble in 2000, followed by a series of accounting scandals that re-focused attention on the accounting treatment of options. Eventually, FASB mandated expensing, and companies moved away from options towards restricted stock, which largely stopped the escalation in CEO pay. But, the "option episode" permanently shifted pay levels for US executives, which in turn has had global repercussions.

The stock-option experience in Europe has followed somewhat different paths than in the United States. We showed how the explosion in option grants in the United Kingdom in

the 1980s can be traced to government policy to encourage employee stock ownership, while the UK's retreat from options in the 1990s can be traced to government reaction over perceived pay excesses at recently privatized utilities. Option plans became legal in France in 1970, but the first plans was not introduced until 1984 when the government ruled that options would be taxed as capital gains rather than ordinary income. In 1995, the government changed its mind and began taxing options as ordinary income rather than capital gains. Proposals to restore the favourable treatment of options in France were derailed in late 1999 following a scandal involving option-based golden parachute payments. In Germany, US-style option plans were not even legalized until 1998, and were still challenged in a series of high-profile lawsuits. While these were typically unsuccessful, many companies responded by adding performance hurdles that must be met before options were exercised, and in 2003 the government made such hurdles mandatory. In Italy, a series of government actions designed to promote the use of options increased their popularity beginning in 1998 and lasting through 2006, when a new series of government actions reduced their popularity. In 1999, the Spanish government increased taxes on stock options after it was revealed that the CEO of the recently privatized telephone company – and boyhood friend of the prime minister – was about to make a fortune exercising options.

In each country we surveyed, we found that the ebbs and flows in stock option grants followed government intervention, usually reflecting tax policies. In many cases, the government interventions were reactions (some would say “knee jerk”) to isolated events or situations. Since the triggering of these events vary across countries, the nature of the government intervention – and the subsequent use of stock options – has also varied. In consequence, at present, we do not believe that there is a single economic driver explaining the uptake of options by firms in a given country. Indeed, the “perfect storm” that triggered the option explosion in the United States has not been repeated anywhere in Europe, and therefore the use of options (and equity-based pay in general) continues to be much lower in Europe.

A positive consequence of the US option explosion is that the fortunes of US CEOs have become tightly linked to the fortunes of US shareholders. In addition to analyzing cross-continent differences in the level and composition of CEO pay, we contrasted incentives for US and European executives. We compared the year-end value of CEO stock and option holdings in 2006 (pre-crash) and 2008 (post-crash) – measured in euros or as a ratio to cash compensation or firm value – and found dramatically higher stock holdings for the median US CEO than for the median European CEO. Coupled with the relative paucity of equity-

based compensation for European CEOs, we conclude that CEOs in Europe face few direct incentives tied to shareholder wealth compared to their American counterparts.

In the absence of direct incentives through stock and option holdings, European CEOs might be rewarded (or penalized) for stock-price performances through their bonus plans. However, with the exception of Germany, Switzerland and the United Kingdom, we found little direct evidence that bonuses co-vary with the returns to shareholders. Indeed, we even found an insignificant link between bonuses and accounting performance in half of the European countries surveyed. Overall, there is little evidence that the interest of the typical European CEO is aligned with the interest of shareholders. The “bright spot” in relation to European CEO incentives occurs in an unlikely place: the banking sector, where we document a positive pay-for-performance link. We find a statistically strong relation between bonuses and shareholder returns for European banks, and a much smaller relation in non-banks.

Which brings us to the financial crisis and those banking bonuses, which allegedly created risk-taking incentives that created the financial meltdown. In our analysis of these bonuses, we note that the challenge historically has been providing incentives for risk-averse executives to take *enough* risk, not *too much* risk. Indeed, the issue for modern firms has been to overcome bureaucratic decision-making and replace it with entrepreneurial and purposeful decision-making. We documented that there are two ways that compensation policy can induce excessive risk taking: through asymmetric rewards and penalties for performance (i.e., providing a reward for success but no penalty for failure) or through bad performance measures (e.g., paying mortgage brokers on the number of loans they write, as opposed to the number that might actually get paid back).

We find no evidence in bonus asymmetries for banking CEOs in Europe or the United States. We do find that the compensation structure for European banks relies less on salaries and more on bonuses than the structure for non-bankers. Moreover, we find the average and median bonus for European banking CEOs fell 30% and 84% between 2006 and 2008, compared to modest drops of 4% and 6% for non-banking CEOs. Finally, we find that banking CEOs in Europe hold much more stock and options than do European non-banking CEOs, and that the value of these holdings fell much more for banking CEOs than non-banking CEOs. These results – coupled with our result that bonuses in the banking sector are strongly related to shareholder returns – suggests that performance measurement issues are also not to blame for excessive risk taking by European banking CEOs.

5.2. *Should Executive Pay be Regulated?*

As documented in this study, the reality is that executive pay *is* already heavily regulated on both sides of the Atlantic. Throughout Europe and the United States, there are disclosure rules, tax policies, and accounting standards designed explicitly to address perceived abuses in executive compensation. There is also direct intervention, such as the prohibitions on option grants and incentive bonuses in bailed-out banks in the United States and France. Common to all existing and past attempts to regulate pay are important (and usually undesirable) unintended consequences. For example, the 1984 US laws introduced to reduce golden parachute payments led to a proliferation of change-in-control arrangements, employment contracts, and tax gross-ups. Similarly, the 1993 deductibility cap on non-performance-related pay is generally credited with fueling the escalation in pay levels and option grants in the 1990s, and the enhanced disclosure of perquisites in the 1970s is generally credited with fueling an explosion in the breadth of benefits offered to US executives.

The unintended consequences from regulation are not always negative. For example, reporting requirements in the 2002 US Sarbanes-Oxley bill (in which executives receiving options had to report those options within 48 hours) are generally credited for stopping the unsavory practice of “option backdating,” even though the authors of the bill had no idea the practice existed. As another example, the draconian regulations imposed on US banks accepting government bailouts had the positive effect of getting US investors paid back much more-quickly than anyone expected, in order to escape the regulations. Even the 1993 deductibility cap – which backfired in its attempt to slow the growth in CEO pay – had the positive effect of greatly increasing the alignment between US CEOs and their shareholders. But, these positive effects are accidents and cannot be relied upon. For example, while the new European rules on banking bonuses may cause firms to rely more on equity-based compensation rather than cash bonuses (which would be a positive outcome), the more plausible response will be an increase in base salaries (i.e., a negative outcome).

Thus, our strong recommendation is to resist calls for further government regulation, and indeed governments should re-examine the efficacy of policies already in place. Part of the problem is that regulation – even when well intended – inherently focuses on relatively narrow aspects of compensation allowing plenty of scope for costly circumvention. An apt European analogy is the Dutch boy using his fingers to plug holes in a dike, only to see new leaks emerge. The only certainty with pay regulation is that new leaks will emerge in unsuspected places, and that the consequences will be both unintended and costly.

A larger part of the problem is that the regulation is often mis-intended. The regulations are inherently political and driven by political agendas, and politicians seldom embrace “creating shareholder value” as their governing objective. While the pay controversies fueling calls for regulation have touched on legitimate issues concerning executive compensation, the most vocal critics of CEO pay (such as members of labor unions, disgruntled workers and politicians) have been uninvited guests to the table who have had no real stake in the companies being managed and no real interest in creating wealth for company shareholders. Indeed, a substantial force motivating such uninvited critics is one of the least attractive aspects of human beings: jealousy and envy. Although these aspects are never part of the explicit discussion and debate surrounding pay, they are important and impact how and why governments intervene into pay decisions.

Our concerns about regulation notwithstanding, we do support legislation for enhanced disclosure of individual compensation arrangements (including stock options), currently absent in Austria and Greece and only recently imposed in Spain and Portugal. Our support is admittedly self-interested (as consumers of these data), and we recognize that enhanced disclosure will lead to more (and not less) controversies over pay. Moreover, based on the experiences of Canada and other countries introducing disclosure requirements, we predict that enhanced disclosure will lead to both higher levels of pay and convergence towards US-style pay as the “highest common denominator” (where by “highest” we mean in terms of generosity not efficiency). However, while we would not advocate full convergence to the US model (which has its own problems), we believe that movement “towards” the US focus on pay for performance would be good for shareholders on both continents.

Our calls for less rather than more regulation is not meant to indicate support for the status quo, but rather the reality that increased intervention is much more likely to make things worse rather than better. We perceive major problems with European-style executive pay packages, and are especially concerned with the lack of alignment between CEO and shareholder interests. The solutions to these problems will best emanate from boards of directors and compensation committees, and not from the governments. Our recommendations for European firms include:

- Boards should increase the percentage of compensation paid in the form of restricted stock, performance shares, or stock options. To the extent the new elements are largely added on top of existing compensation plans (i.e., without reductions in base salaries or bonuses), they should come in the form of performance shares or performance-vesting

options. Restricted shares are appropriate when the grants are accompanied by a reduction in base salaries.

- Boards should encourage executives to exchange part of their base salaries for restricted shares, offered at a reasonable discount.
- If stock options are granted, the exercise date should be specified in advance and not left to the discretion of the executive.
- Boards should enforce stock ownership guidelines or provide incentives for executives to hold equity well past the time when restricted shares vest or options become exercisable.
- To the extent feasible, bonus formulas should provide for symmetric rewards and penalties. Symmetric rewards can be facilitated by reducing base salaries while increasing target bonuses: bonus payouts “below target” even when positive constitute penalties for poor performance.
- Some portion of annual bonuses should always be deferred to allow for recovery of rewards if and when there is future revision of critical indicators on which the rewards were based or received. (While especially relevant for financial companies, this recommendation can be applied to all companies.)
- Similarly, some portion of annual bonuses should be paid in shares that are subject to forfeiture if and when there is future revision of critical indicators on which the rewards were based or received.
- Even if not mandated by the government, Boards should make disclosures of individual compensation packages (including details on grants and holdings under equity-based plans) as recommended by the European Commission.

Given the recent financial meltdown and controversies involving the “bank bonus sector,” the banking sector warrants special consideration:

- Our recommendations for boards to impose symmetric rewards and penalties (including the imposition of “negative bonuses” through deferred payments, bonus banks, and bonus payments in the form of stock) is especially critical in banking, since the scope of manipulating short-run vs. long-run performance metrics is arguably higher in this sector.
- Similarly, our recommendations for boards to introduce and enforce “clawback” arrangements allowing for recovery of ill-gotten rewards is also especially important for this sector.

However, we believe that calls for especially stringent reforms or punitive taxes on banking bonuses are misguided and ultimately counter-productive:

- While we conclude that it is “especially important” for banks to have bonuses that are more “symmetric,” deferred, performance-contingent, and paid in restricted shares as well as cash – coupled with smaller base salaries (as a percentage of total pay) and higher bonus opportunities – we also find that banking CEO pay in both the United States and Europe are already better-aligned with our recommendations compared to CEOs in other sectors.
- While it is a fact that pay in the banking sector over the past two decades has increased relative to pay in other sectors, we also recognize that there is no direct empirical evidence (and not for a lack of trying) that this either the level or structure of pay in banking was an important factor leading to the financial crisis.
- Moreover, while there are arguments (albeit little evidence) that the level of CEO pay reflects CEO influence over their own pay levels, compensation levels and structures for banking employees well below the top executive levels are clearly set in a competitive market, reflecting the highly specialized skills in understanding and trading in increasingly complex derivative instruments. Overall, regulating compensation in financial services will ultimately be driven by political concerns and will cripple one of the world’s most important, and historically most productive, industries.

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