Universität Hohenheim

Fakultät für Wirtschafts- und Sozialwissenschaften

Institut für Betriebswirtschaftslehre

Lehrstuhl für Bankwirtschaft und Finanzdienstleistungen

Prof. Dr. Hans-Peter Burghof

Disclosure of Executive Remuneration in Large Banks

Dissertation

zur Erlangung des akademischen Grades

Doktor der Wirtschaftswissenschaften (Dr. oec.)

an der Fakultät für Wirtschafts- und Sozialwissenschaften

vorgelegt von

Max Schott

aus Stuttgart

2008

Tag der mündlichen Prüfung: 15.12.2008

Dekan: Prof. Dr. Jochen Streb

Berichterstatter, 1. Prüfer:	Prof. Dr. Hans-Peter Burghof
Mitberichterstatter, 2. Prüfer:	Prof. Dr. Dirk Hachmeister
Mitberichterstatter, 3. Prüfer:	Prof. Dr. Christian Ernst

TABLE OF CONTENTS

PART II DISCLOSURE OF EXECUTIVE REMUNERATION BY THE 245 LARGEST LISTED BANKS OF THE WORLD AND THE IMPACT ON THE COST OF EQUITY CAPITAL AND/OR STOCK PERFORMANCE

LIST OF TABLES

Part I

Part II

Part III

LIST OF DIAGRAMS

Part I

Part II

Part III

LIST OF VARIABLES AND INDICES

anti - dir - rights	Proxy variable reflecting the magnitude and quality of the overall corporate governance rules of a country
$avg(r_{gbd})$	The 10-year government bond return of all 29 countries (average weighted by the number of the banks per country)
b, i	Indices representing a bank
badjpe	The deficiency-adjusted P/E ratio of a bank
bpe	The P/E ratio of a bank.
bproxy	The disclosure proxy of a bank
cinadjpe	Variable equaling the difference between an individual bank's P/E ratio and the P/E ratio of its home country's national stock market index
cpe	The P/E ratio of the stock market index of a country
cproxy	The disclosure proxy of a country
ε	Error term
finsys	Financial system dummy variable, distinguishes between banks located in countries with a bank-based system and banks domiciled in countries with market systems
grassets	Growth proxied by book value of total assets over the years 2003 and 2004
grprofit	Proxy variable for growth rate of profits, measured as the relative difference between a bank's pretax profits from 2003 to 2004
ir - badjpe	The interest rate and deficiency-adjusted P/E ratio of bank
ir - cadjpe	The interest-rate and deficiency-adjusted P/E ratio of a country
j	Index representing a country
leverage	The leverage of a bank per the end of the fiscal year 2004; it is proxied by the total debt to total assets
lnassets	Total assets variable (in USD), reflecting the size of each bank as measured by the sum of the total assets of the balance sheet as of 2004 (where available - otherwise as of 2003)
mcapgnp	Variable estimating the magnitude of the capital market integration of a country; it is the share of a country's stock market capitalization of the country's GNP

mcapusd	Variable representing the size of a bank; the size is assessed by the stock market capitalization of common equity as of the end of 2004
Momentum	Estimates momentum effects
r_{gbd}	The 10-year government bond return (price and coupon) of the respective country of a bank
rf	The return of a risk free asset; it is created as a world risk free rate by forming the arithmetic average of the monthly returns of all risk free assets in the respective 29 countries in which the 191 banks in the portfolio are located
rmsci	The monthly return of the world stock market index MSCI
rp	The return of the banks' equally weighted stocks in the portfolio in the particular month, assessed by the percentage difference of the stock prices to the stock prices of the previous month
R	Stock return
R_f	Risk-free return
SD	Standard deviation
Sh	The Sharpe ratio
t	Index representing a month
tobinq	The value of the Tobin's q of a bank

LIST OF ABBREVIATIONS

Abs. Sh.	average Sharpe ratio of banks per country
AFL-CIO	American Federation of Labor and Congress of Industrial Organizations
APT	arbitrage pricing theorem
BEA	Bank of East Asia
CAPM	capital asset pricing theorem
CEO	chief executive officer
GLS	generalized least squares
GNP	gross national product
HSBC	Hong Kong and Shanghai Banking Corporation
ICGN	International Corporate Governance Network
KOSPI	Korea Composite Stock Price Index
MSCI	Morgan Stanley Capital International
MTFG	Mitsubishi Tokyo Financial Group
NYSE	New York Stock Exchange
OECD	Organization for Economic Co-operation and Development
OLS	ordinary least squares
P/E	price-earnings
SD	standard deviation
SEC	Securities and Exchange Commission
SLS	stage least squares
SMFG	Sumitomo Mitsui Financial Group
UBS	biggest Swiss bank; abbreviation originated from Union Bank of Switzerland, a predecessor firm of UBS
UK	United Kingdom
US(A)	United States (of America)
USD	US dollar
z-val	results of regressions with normalized variables (z-transformation)

INTRODUCTION

Among bankers, it is popular to say that at the end of each day, the most important asset leaves the firm and re-enters it the next morning. This idea mirrors the considerable importance of the executive officer in finance and banking, as opposed to non-banking businesses, where patents, production facilities and the like traditionally play a larger role. However, this pithy saying also mirrors the values that leading bankers worldwide receive as compensation. Whether the level in individual cases or at large is fair or not, there certainly is a good case for the *disclosure* of executive pay.

Executive remuneration lies at the center of the principal-agent issue. As capital markets all over the world are evolving into highly integrated instruments of public wealth, business policies of individual companies should aim at sustaining and enlarging shareholder value. Managerial staff is trusted with far-reaching responsibilities to determine and execute those policies. Remuneration is perhaps the most effective means of aligning the actions of the executive officer with the interests of the shareholder, provided that the nexus of task, performance and pay is appropriately designed.

However, performance-oriented executive remuneration suffers from inherent design defects, as Ferrarini and Moloney (2004) point out. Two major difficulties trouble the two common proxies for firm performance, i.e., share price and share options. Connecting pay and share price may increase the danger that management inflates earnings and manages disclosure so as to generate short-term share price increases. The use of stock options may pose four potentially damaging risks for deepening agency costs: dilution, repricing and the impact of options on dividend policy and the influence on the risk management.

Seen from the shareholder's perspective, performance-oriented executive pay raises additional questions. First, as for the design, remuneration schemes are not devised by outside owners but insiders, i.e., through a remuneration committee as a subcommittee of the board. Second, boards may become passive or captured by management and thus poorly incentivized to bargain for optimal incentive remuneration for a variety of reasons: board dynamics, which often result in deference and politeness towards the chief executive, social ties and conflicts of interests.

Outside owners have but one powerful means of influencing boards as well as remuneration committees: their investment decisions. To use this instrument properly, they rely on information about the remuneration of executives. If information is provided in full detail, shareholders can assess whether the board is negotiating and monitoring effectively at arm's length. Also, disclosure

requirements prompt the board to justify pay choices and the disclosure of the pay-setting process can also enhance the accountability of the remuneration committee.

In the light of these considerations, it may come as a surprise that, on the global scale, there is no consensus on the disclosure issue whatsoever. Many important countries have not enacted any kind of disclosure regulation. Japan, home to the second largest capital market in the world, is a case in point. But even in countries where the disclosure of CEO remuneration is mandatory, pay is often camouflaged. What makes monitoring difficult is the complexity and opacity of pay packages. For instance, a comprehensive table of total compensation, including salary, bonus, equity grants, accumulated deferred compensation plans, pension plans, perks, tax benefits and the like, usually does not exist. This is especially true in countries where the disclosure issue is still evolving and emotional public debates tend to prevail while serious structural discussions are rare.

In many cases, executives - and even shareholders - are not willing to disclose anything about remuneration beyond what they might be obliged to by law. Disclosure may contribute to an escalation of compensation precisely because it adds transparency to a domain figured by one-upmanship, also called the ratcheting effect (Bebchuk and Fried 2004). Disclosure can heighten social resentments in ways that constrain optimal compensation arrangements (Romano 2001). From the perspective of the executive, disclosure also exposes deep cultural divides as to the primacy of personal privacy in pay. In conclusion, however, none of these three observations may, can nor should defer clear and comprehensive disclosure enactment. Disclosure brings another dimension to the process, raising the ideas of accountability, explanation, and justification to shareholders. The benefits of greater shareholder activism from disclosure must be weighed against populist and political reactions to high executive pay.

In the first part of this thesis, the disclosure rules concerning executive remuneration and their respective execution on the individual firm's level will be quantified, analyzed and compared on an international level. Two main issues will be addressed: First I will determine whether and how elements of the legal environment alongside the market size of the respective countries explain the extent of countries' disclosure requirements. Second, I will look at how individual banks actually disclose against the background of those elements and rules. I will give an introductory overview of literature on executive compensation disclosure and cultural and regulatory issues involved. Hypotheses on the determinants of differences in disclosure standards are developed. I expect the magnitude of disclosure levels to depend on the type of legal tradition in a country (common versus civil law), its law origin (French, Scandinavian, German or English), the type of its financial system (market-based versus bank-based), the strength of shareholder rights the country's legislation grants

as well as capital market size and the degree of capital market integration. After the construction of the disclosure proxy, the metric for the quality of executive pay disclosure, I measure disclosure both at countries' level of disclosure rules and at individual banks' magnitude of executive remuneration disclosure. The results of testing the hypotheses from descriptive statistics will be presented. Also, the reconciliation of the individual banks' compliance with the legal framework will be analyzed. In addition, a regression analysis will be conducted. The regression models involve country-level variables, and explain both country-level disclosure standards anchored in national legislation and country averages of disclosure quality achieved by the banks in the sample.

While supporters of executive information disclosure often argue the case from the perspective of the interested public, I think that there is an aspect to the subject that should be appealing to the shareholder and the executive officer alike. Good executive information disclosure creates a win-win situation. For shareholders, the question of executive remuneration disclosure is part of the information risk associated with their investment in a company. Less knowledge means higher, better knowledge lower information risk. The former translates into higher, the latter into lower risk premiums demanded by investors. In this respect, the shareholder's and the executive's interests concur: While the investor is interested in a reduction of risk, managerial staff seeks to cut the cost of equity capital. In the literature, there is plenty of evidence that information disclosure lowers investment risks and hence reduces capital costs and/or improves stock performance. With this in mind it seems surprising that an analogous relationship between executive remuneration disclosure and the cost of equity capital has not been surveyed separately as of yet. The issue is if one could generate significant statistic evidence in support of the hypothesis that better executive remuneration disclosure leads to reduced cost of equity capital and/or a better stock performance. After providing an overview of the literature on the relationship between information disclosure activities as well as other elements of corporate governance and the cost of equity capital, the methodological approach is described and possible criticism is discussed. Thus, in part two, I employ practitioners' methods to assess absolute values of cost of equity capital and risk premiums. Four common proxies for either stock performance, volatility and/or cost of equity capital will be analyzed: long/short spreads, Sharpe ratios, price-earnings ratios, and Tobin's qs.

In part three, the remaining question is addressed: Does better transparency of the complex executive remuneration contracts result in potential abnormal stock returns for the shareholders? Does better transparency of executive remuneration explain better relative stock performance, proxied by the abnormal stock returns, which will be controlled for stock volatility, size and book-to-market ratio effects and potential short-term underreactions to information, i.e. the momentum effect. I assert that the better the executive remuneration disclosure is, the higher the abnormal

stock returns will be. Moreover, firms domiciled in countries that demand comprehensive and detailed disclosure by issuing and enforcing consequent disclosure enactment might display potentially positive abnormal stocks returns in contrast to firms located in countries with lax disclosure requirements. With regard to the estimation of possible abnormal stock returns, I refer to the four-factor Capital Asset Pricing Model (CAPM) by Cahart (1997). That is, the absolute stock returns will be controlled for the price of the four risk factors: volatility (Scharpe 1964), size and book-to-market ratio effects (Fama and French 1993) and potential short-term underreactions to information (i.e. the momentum effect; Jegadeesh and Titman 1993). Investors do not like bridal veils, but want to know the exact nature of the nexus of individual performance, firm profitability and absolute pay level to which their funds are devoted. So the inherent reasons for possible and positive abnormal stock returns in case of good transparency might derive from higher absolute stock performance and/or lower stock price volatility with regard to the four risk factors. Thus, in part three, the relevant theory will be explicated and the hypotheses will be formulated. After outlining the research design and methodological approach, the method of the estimation of the abnormal stock return is explained and discussed. The data analysis that extensively tests the hypotheses is comprised.

The overall conclusion at the end of this thesis summarizes the most important and significant findings.

Part I

Disclosure of Executive Remuneration in Large Banks

An international comparison of disclosure rules and their execution

1 Introduction

This first part of my thesis contributes to the body of corporate governance studies by quantifying and analyzing (a) the magnitude of executive remuneration disclosure of the world's 245 largest exchange-listed banks and (b) the disclosure rules and regulations in the 31 countries in which these banks are domiciled. Two main issues will be addressed: First I will determine whether and how elements of the legal environment alongside the market size of the respective countries explain the extent of countries' disclosure requirements. Second, I will look at how individual banks actually disclose against the background of those elements and rules.

Section 2 gives an introductory overview of the literature on executive compensation disclosure and cultural and regulatory issues involved. I note both the lack of international consensus on the necessity of disclosure regulation and ample leeway for executives in countries that did enact some kind of mandatory disclosure to camouflage parts of their pay in less transparent forms. Section 3 contains brief examples of disclosure enactment of the six largest banks of the world. It will be interesting to see whether those banks exhibit a similarly high level of disclosure against the background of their commonly high importance for the global financial markets.

In section 4, hypotheses on the determinants of differences in disclosure standards are developed. I expect the magnitude of disclosure levels to depend on the type of legal tradition in a country (common versus civil law), its law origin (French, Scandinavian, German or English), the type of its financial system (market-based versus bank-based), the strength of shareholder rights the country's legislation grants as well as capital market size and the degree of capital market integration. In section 5, the construction of the disclosure proxy, my metric for the quality of executive pay disclosure, is discussed. I measure disclosure both at countries' level of disclosure rules and at individual banks' magnitude of executive remuneration disclosure.

Section 6 presents the results of testing the hypotheses formulated in section 4 that I obtained from descriptive statistics. Also, the reconciliation of the individual banks' compliance with the legal framework will be analyzed. In section 7 I conduct a regression analysis. The regression models involve country-level variables, and I attempt to explain both country-level disclosure standards anchored in national legislation and country averages of disclosure quality achieved by the banks in the sample. Section 8 concludes.

2 The case for disclosure of executive remuneration

The need for good corporate governance arises from the fundamental problem of the separation of principals (the shareholders) and agents (the executives). Modern academic literature on corporate governance starts with the work of Berle and Means (1932). The contractual nature of the firm and the principal-agent problem, as Berle and Means describe it, leads to the development of the agency approach to corporate finance. They argue that, in practice, managers of a firm pursue their own interests rather than the interests of shareholders and that, due to information asymmetries, agents tend to expropriate principals. Controlling insiders not only have the ability, but also the incentive to expropriate outside investors (Jensen and Meckling 1976).

Given that certain owners have better means of influencing the managers than others, La Porta et al. (2000, 4) define corporate governance as: "to a large extent, a set of mechanisms through which outside investors protect themselves against expropriation by any insiders". If the firm is controlled by the management itself, corporate governance helps solve a principal agent conflict between the management and the shareholder. In case that the firm is controlled by majority shareholders, it deals with a two-stage principal agent conflict between management, controlling shareholders and minority shareholders.

Two types of mechanisms are supposed to resolve the resulting two sets of conflicts between owners and managers, and between controlling shareholders and minority shareholders. The first type consists of internal mechanisms: ownership structure, transparency and control of executive compensations, input from boards of directors, and requirements for financial disclosure. The second consists of external mechanisms: the external takeover market, the legal infrastructure, and the protection of minority shareholders (Banks 2004). Thus, corporate governance consists of many different and heterogeneous elements, and an overall evaluation of its quality is not easy to achieve (Bai et al. 2003, Black 2001, Black et al. 2005, Beiner et al. 2004, Gompers et al. 2003, Klapper and Love 2004).

Modern principal agent theory clusters around incentive schemes for agents that are optimal in the sense that they maximize the principals' utility (Kutta and Radner 1994, Haubrich 1991, Mookherjee 1984, Conyon and Schwalbach 1999). With regard to executive remuneration, this approach has had a strong impact on business practice. Large components of the managers' salary were made dependent on certain performance measures, and stock market firms construed stock option plans to better incentivize their top management (Abowd 1990, Jensen and Murphy 1998, Wallace 1997). On the empirical side, several studies deal with the pay for performance-sensitivity

to find out if managers did, on average, obtain the right incentives to maximize shareholder value (Zhou and Swan 2003), whereas theoretical papers are looking for the incentive-compatible compensation schemes, i.e., compensation schemes that lead to an optimal behavior of the managers with regard to the maximization of the firm value (Diamond and Verrecchia 1982, Zhou 1999).

However, remuneration schemes are not designed by outside owners but insiders, e.g., through a remuneration committee as a subcommittee of the board. Thus, the publishing of the chosen remuneration scheme is important. It contains a commitment of those insiders that they are going to follow the goals implied with this incentive scheme. Furthermore, outside owners have no means of exerting influence on the management or other insiders' behavior directly. Their only alternative is to exit and abstain from financing the firm if they are not content with its management. To use this instrument properly, they rely on information, particularly about the remuneration of the executives, to know what the incentives had been in the past and what to expect in this respect for the future.

Ferrarini and Moloney (2005) note that executive pay raises a number of problems with respect to design, governance and disclosure. Performance pay suffers from inherent design defects that damage the performance link. Two major design difficulties trouble the two common proxies for firm performance, i.e., share price and share options. Connecting pay and share price may increase the danger that management inflates earnings and manages disclosure so as to generate short-term share price increases. The use of stock options may pose four potentially damaging risks for deepening agency costs: dilution, repricing and the impact of options on dividend policy and risk management. Thus, shareholders require detailed information on remuneration packages, including the stock options programs. The latest mutation of managerial rent extraction is the payment of dividend on phantom shares (Bloomberg 2006), which occurred in the US.

The effectiveness of the incentive contract therefore depends on adequate monitoring by independent directors and, ultimately, by shareholders. Directors or boards respectively may become passive or captured by management and thus poorly incentivized to bargain for optimal incentive remuneration for a variety of reasons: board dynamics, which often result in deference and politeness towards the chief executive, social ties and conflicts of interests. Effective governance therefore depends on effective disclosure. Disclosure requirements prompt the board to justify pay choices, and the disclosure of the pay-setting process can also enhance the accountability of the remuneration committee. If full information is provided about pay packages

and their relationship to performance, shareholders can assess whether the board is negotiating effectively at arm's length and can initiate appropriate action (Ferrarini et al. 2004).

Consequently, the OECD principles of corporate governance stress that " … the corporate governance framework should ensure that timely and accurate disclosure is made on all material matters," and among these material matters " … remuneration policy for members of the board and key executives and information about board members, including their qualifications, the selection process, other company directorships and whether they are regarded as independent by the board." (OECD 2004, chapter V). However, this principle does not specify what exactly the firms should or have to disclose to comply with it.

Why would firm insiders want to disclose their remuneration to outside owners? The central argument is that it might reduce capital costs. Although the relationship between a company's capital costs and the quality of its respective disclosure of executive remuneration has not yet been surveyed separately, there is plenty of evidence that good corporate governance reduces capital costs and/or improves stock performance (Drobetz et al. 2003, Black et al. 2005, Beiner et al. 2004, Gompers et al. 2003). The better the information is disclosed, the more the parameter uncertainty and estimation risk is reduced (Barry and Brown 1985). Disclosure reduces information asymmetries and hence lowers the risk premium of investors. Lombardo and Pagano (1999) argue that disclosure simply reduces out-of-pocket costs borne by investors for the procurement of information.

McKinsey (2002) conducted an extensive survey among global institutional investors, finding that corporate governance remains of great concern to institutional investors, that, in fact, corporate governance is at the heart of investment decisions. Institutional investors state that they still put corporate governance on a par with financial indicators. An overwhelming majority of investors are prepared to pay a premium for companies exhibiting high governance standards. Premiums averaged 12-14% in North America and Western Europe; 20-25% in Asia and Latin America; and over 30% in Eastern Europe and Africa. Therefore, financial disclosure is a pivotal concern. Specific policy priorities include strengthening shareholder rights. Moreover, Gallagher et al. (2005) confirm that fund managers indeed monitor executive compensation.

Many investors do think that spiraling CEO pay has become dangerously detached from performance (Eisinger 2005, Bebchuk and Fried 2004). Thus, the requirement that each shareholder individually assess the appropriateness of the nexus of performance and pay on a regular, institutionalized basis should be obvious and apparent. Furthermore, Selbach, chair of the

ICGN Executive Remuneration Committee in 2005, notes that "Executive remuneration practices are at the heart of good governance. I have observed that corporations that have developed transparent, well-defined processes for these decisions tend also to have strong governance structures overall. Conversely, poor remuneration practices are often symptomatic of less than optimal corporate governance" (ICGN 2005). Thus, the degree of disclosure of remuneration is an important indicator for the general attitude of the management towards the interest of the outside owners.

In contrast to these findings, in many cases, executives - and even shareholders - are not willing to disclose anything about the remuneration of the board beyond what they might be obliged to by law. I identify three major arguments that might justify this behavior: First, from the perspective of shareholders, disclosure of executive remuneration may contribute to an escalation of compensation precisely because it adds transparency to a domain figured by one-upmanship, also called the ratcheting effect. High levels of top executive compensation have triggered an intense debate over whether compensation results primarily from competitive pressure for managerial services or from managerial overreaching. Bebchuk and Fried (2004) argue that current remuneration levels are best explained by managerial rent-seeking and not by arm's-length bargaining designed to create an optimum pay and performance nexus.

Second, disclosure can heighten social resentments in ways that constrain optimal compensation arrangements. Thus, remuneration committees may be vulnerable to public pressures and respond by adopting suboptimal compensation structures (Romano 2001). The differences in the magnitudes of the disclosure appear to be correlated with two variables: ownership concentration and the strength of social democracy, inversely related to each other. Where ownership concentration is high, individualized disclosure provides fewer benefits because large blockholders can control managerial rent extraction. Where social democracy is strong, more disclosure may increase resentment against high compensation packages and lead to suboptimal arrangements from the shareholder's perspective. The examples of the UK with high disclosure and Germany with low disclosure are instructive (Ferrarini et al. 2004).

Third, from the perspective of the executive, disclosure also exposes deep cultural divides as to the primacy of personal privacy in pay. The public, predominantly shareholders, is concerned about executive compensation, not only in terms of the presumed disconnect between pay and performance, but also on the absolute level, especially in relation to other social frames of value. The public's reaction to high levels of compensation is not necessarily proportionate to the average shareholder's concern.

In conclusion, however, none of these three observations may, can nor should defer clear and comprehensive disclosure enactment. By contrast, a culture that proves that superior performance is clearly disclosed and properly explained should not trigger resentment. Disclosure brings another dimension to the process, raising the ideas of accountability, explanation, and justification to shareholders. The benefits of greater shareholder activism from disclosure must be weighed against populist and political reactions to high executive pay.

Internationally there is no consensus on whether the lack of a sufficient voluntary disclosure requires a regulatory intervention on the disclosure issue. Thus, many countries have not enacted comprehensive disclosure regulations. But even in countries where the disclosure of executive remuneration is mandatory, pay is often camouflaged. In fact, the complexity and opacity of pay packages make monitoring difficult. For instance, a comprehensive table of total compensation, including salary, bonus, equity grants, accumulated deferred compensation plans, pension plans, perks, tax benefits and the like usually does not exist.

3 Examples: disclosure of the largest banks in six countries

Before entering into a systematic analysis of both disclosure rules and practice with regard to executive remuneration, I provide a first impression of the high degree of diversity in this field through the description of the disclosure practice of the largest bank of Japan, the US, Switzerland, France, the United Kingdom and Germany respectively. The rank order results from the size of the total assets per the end of 2004 in USD. The fact that all these banks compete on the same international capital markets stresses the importance of the differences between the countries with regard to the regulatory, institutional and cultural setting.

3.1 Japan, the Mizuho Financial Group: an unpaid lip service

In 2004, Mizuho Financial Group was the world's largest bank in terms of total assets. Hence, one tends to assume that in terms of its disclosure practices, the bank will aspire to world standards, and in fact, the annual report of 2004 (Mizuho 2004, 148) promises "voluntary, proactive disclosure" for "customers, shareholders, and investors both in and outside Japan in a timely, fair and appropriate manner in order that they may form accurate judgments and appraisals of the group." However, the voluminous annual report from 2004 contains no information about the directors' remuneration at all. The same concentration on pure lip service holds for, e.g., the Mitsubishi Tokyo Financial Group (MTFG 2004) or the Sumitomo Mitsui Financial Group (SMFG 2004).

Further enquiries met with the unofficial statement that there was no disclosure, and, considering how bad the performance of the publicly listed Japanese banks had been, that this was not such a bad decision either.

3.2 The US, Citigroup: the giant archetype

Citigroup, the second largest bank of the world in terms of total assets, however five times the market capitalization of the Mizuho Financial Group and number one in that category (The Banker 2004), employs about 330,000 people in more than 100 countries and has performed tremendously successfully during the last years with regard to profit and growth. It dedicates almost half of its 117 page core annual report 2004 to the issue of corporate governance (Citigroup 2004). On 17 pages, Citigroup clearly and extensively describes the directors' remuneration. Shareholders and the public are informed about the stock ownership of board members, the base salary, discretionary incentive and retention awards, deferred compensation and retirement benefits, employment agreements and severance arrangements, change in control payments, the talent development and succession planning, the executive performance plan, retirement plans, debts to the firm, and any other perquisites and personal benefits to the executives or even their spouses. Finally, Citigroup enumerates the values of granted options by a "grant present day value", using the binominal option pricing model. The underlying assumptions of the model are fully displayed. Most of the remuneration components mentioned above are presented in several compensation tables.

Observers from other countries might be impressed not only by the minuteness of the report, but also by the sheer number and complexity of the different components of remuneration, and, of course, by the impressive magnitude of the compensation. Citibank declares that its compensation philosophy is to choose competitive compensation levels to attract and retain high performing executives, assuming implicitly that these could earn just as much in other banks. Furthermore, compensation is to a high degree performance oriented. However, Citibank states that "performance should be based on a broad mix of factors rather than focussing on a single metric so as to avoid encouraging focus on one performance measure at the expense of others," which, although sensible in itself, certainly does not subserve transparency. Finally, the report does not contain a synopsis combining all remuneration parts in one sheet, or a performance balance or objective achievement balance for each chief executive to make transparent why he did receive a certain remuneration package. Thus, outside owners receive plenty of information, but will have difficulties to draw their own substantiated conclusions from it.

3.3 Switzerland, UBS: the Swiss federal discreetness

Within the 60 pages of the 2004 annual report of UBS (UBS 2004), corporate governance is addressed on only 4 pages. UBS records the compensation for senior executives as a total sum only, remaining unspecific to whether this comprises the "Group Executive Board" or another circle of recipients. Assuming that the number mentioned refers to the group executive board, and further assuming that the pensions paid to former senior executives are not included and that the chief executive receives 1.5 times the remuneration of his board colleagues - a commonly used rule of thumb -, then the CEO should have been paid about 14 million USD, his colleagues around 9.5 million USD. However, the balance of executive targets and achievement as well as any details about the remuneration packages remain missing. UBS assures the reader that "the approval of senior executive compensation and the design of senior executive compensation schemes are subject to a rigorous process", and, moreover, that "no one has any approval authority for his or her own compensation" (UBS 2004, 33). Thus, investors are asked to blindly trust the internal control mechanism.

More information can be found in a separate compensation report published in the 2004/05 handbook as a separate report. This contains a lot of general statements about, e.g., compensation frameworks, market pay practices, superior compensation for superior performance and the use of equity-based awards. However, solid data which actually interests shareholders, i.e., precise and specific facts and figures, cannot be detected. Some details about the relation of fixed to variable remuneration and about stock option awards are revealed. Compared to the corporate governance and disclosure practices of, e.g., Citigroup, the UBS disclosure significantly lacks transparency.

3.4 France, Credit Agricole S.A.: stuck in the middle

After its acquisition of Credit Lyonnais, Credit Agricole became the largest banking group in France, with 43 regional banks, all strongly anchored in their respective geographical area. Credit Agricole stresses the principle of decentralization, which might reduce the relative importance of the central management, and probably its ability to draw rents from the firm.

Of the 208 pages of the annual report 2004 of Credit Agricole (Credit Agricole 2004), about 18 pages are devoted to corporate governance, four of them are about officers' compensation. The chairman points out that "the Financial Security Act requires all listed companies to provide a report on their corporate governance and internal control systems" (88). Thus, Credit Agricole simply wants to comply with an obligation and does not aim at satisfying shareholders' needs in the first place.

On page 98, Credit Agricole reports the fixed and performance-related compensation and the stock options of the chief and deputy executive. More details about the composition of those payments are not provided, and further information on any other remuneration components is missing. If the listed pay of the CEO were complete, its value would be just around one tenth of the compensation of the CEOs of UBS or Citigroup.

3.5 United Kingdom, HSBC: the role model

Headquartered in London, HSBC is one of the largest banking and financial services organizations in the world with activities in 77 different countries. It has a tremendous tradition as an internationally active bank with a strong focus on East Asia. Of HSBC's annual report for 2004 (HSBC 2004), 17 pages refer to the issue of directors' remuneration. The magnitude and the quality of the information equal that of Citigroup. There are areas in which HSBC even exceeds Citigroup's clarity.

HSBC presents some details about the benchmark they use to identify good performance, which is based on the stock performance of other significant European banks and a sample of large UK-based firms. Furthermore, the report is particularly accurate with regard to pensions, presenting the accrued annual pension at December 31, 2004, the increase in accrued annual pensions during 2004, and the transfer value of accrued pensions per January 1, 2004 and December 31, 2004, respectively.

As in the case of Citibank, the reader gets no concise overview of the different elements of remuneration per director in a single table.

3.6 Germany, Deutsche Bank: tentative, yet a big step forward

Of the 200 pages that make up the Deutsche Bank annual report for 2004 (Deutsche Bank 2004), 17 are concerned with corporate governance. Three of these 17 pages refer to directors' remuneration. Fixed compensation is reported clearly on a per director basis, as are mid-term incentives (the cash part) and the value of the stock-based remuneration, the latter calculated according to the last price of the share of the Deutsche Bank. Moreover, the number of shares, equity units and performance options per person are also reported. However, it is not possible to derive any detailed information about the value and other restrictions of these remuneration components from the information provided. Thus, the disclosure quality of Deutsche Bank exceeds by far that of Credit Agricole in France or UBS in Switzerland, not to mention the

Japanese Mizuho Financial Group. However, compared to Citigroup and HSBC, I still conceive large gaps in the reporting.

In conclusion, the brief disclosure examples of the six largest banks of the world alone indicate that extensive differences in the magnitude of disclosure rules within the countries are to be expected and that even on the world-leading level, no common understanding exists with regard to what management should reveal to the respective shareholders. This is surprising and distressing at the same time, because these six banks all compete on the same world markets and their stability and reliability are significant for the global financial markets.

4 Hypotheses on relations of the disclosure of executive remuneration

In order to explain the magnitude of a country's enactment of disclosure rules one might conceive of variables connected to the respective legal environment and/or the financial system. I will analyze the following three structural, exogenous country determinants and formulate six hypotheses:

1. The legal system of a country
2. Whether a country possesses a bank-centered or a market-centered system
3. The size and integration of a country's capital market

Based on the principal-agent theorem, the legal system provides the answer to the question regarding the degree to which shareholders are endowed with rights to prevent insider expropriation. A bank-centered system, contrary to a market-centered system, emphasizes the power of creditors as opposed to that of shareholders. The size of the capital market of the respective country implies that the more players there are on the field, the clearer and more comprehensive the rules should be.

4.1 Legal systems and corporate governance

Four major legal systems prevail in the world today. The legal systems of the countries in the panel derive from these four legal families: the English common law, the French and the German civil law, which both derive from the Roman law, and the Scandinavian civil law. In the 19th century, these systems spread throughout the world through conquest, colonization and voluntary adoption (David and Brierly 1985). England transferred the common law to former colonies, including the

US, Canada, Australia and others. Due to French influence, Belgium, the Netherlands, Spain and many countries in Latin America adopted the French civil law tradition. Germanic countries and a number of countries in East Asia are part of the German civil law tradition. The Scandinavian countries form their own tradition. In our sample, Saudi Arabia is the only country of Islamic law origin in this sample and thus has a very different tradition with regard to financial markets.

Historically, differences exist between the relative power of the central government and property owners across European states. In England, the power came under the scope of the parliament and thus the property owners who dominated it. Common law evolved to protect private property against the crown. Courts extended this protection to shareholders. By contrast, in France and Germany, parliamentary power was weaker. Commercial codes were adopted only in the nineteenth century by Napoleon and Bismarck to enable the state to better regulate economic activity. The state resisted the surrender of power to financiers. Accordingly, corporate governance in common law countries is more comprehensive than in civil law countries (Finer 1997).

Building on the historical approach, scholars support the first hypothesis by relating the stronger corporate governance to the nature of the common law paradigm. Coffee (1999) notes that legal rules in the common law system are based on precedents. Hence judges are expected to rule on new situations by the general principle of the fiduciary duty of fairness even though specific modes of conduct have not yet incorporated into the statutes. By contrast, in civil law countries rules are made by legislatures, and judges are not entitled to interpret beyond the statutes. Thus the fiduciary duty principles of common law countries are more protective of shareholders than the bright line rules of the civil law.

Empirical evidence is, among others, provided by La Porta, Lopez-de-Silanes, Shleifer and Vishny, who conducted extensive research on corporate governance with regard to investor protection. The results were published between 1997 and 2002. In La Porta et al. (1999a), they argue that the legal approach is a more fruitful way to understand corporate governance than the conventional distinction between bank-centered and market-centered financial systems. In their view, countries with English law origin also seem to have more efficient courts and more informative accounting standards (La Porta et al. 1998), stronger shareholder protection (La Porta et al. 2000), less interventionist governments and better protection of private property (La Porta et al. 1999b) and that French civil law countries have the lowest quality of law enforcement (La Porta et al. 1997). An interesting study, both theoretically and empirically, on the enactment and the enforcement of security laws in 55 countries, has been conducted by Bhattacharya and Daouk (2004), suggesting that sometimes no security law may be even better than a good security law that is not enforced.

Unfortunately, neither sufficient nor reliable data about the enforcement of disclosure are available. However, even the common law system is not beyond criticism, as Bhattacharya et al. (2006) indicate. Solidly analyzed, they conjecture that in the US, firms are less likely to lose corporate litigations than foreign firms - thus, the US firms have a home court advantage.

These observations and explanations lead to the following conjectures:

> Hypothesis 1: Common law countries have tighter disclosure rules and regulations than civil law countries.
>
> Hypothesis 2: Countries with legal systems originating in the English law possess the highest quality disclosure enactments, followed by countries whose legal systems developed from German or Scandinavian law respectively. Countries whose legal systems derived from the French legal tradition have the worst disclosure enactments.
>
> Hypothesis 3: The better the antidirector rights of the shareholders are, the higher the disclosure quality of the respective country is.

La Porta et al. (1998) developed and tested an index aggregating shareholders rights, which is used as a proxy for the quality of enactment of corporate governance. The countries in their panel are classified by legal origin. The proxy represents the extent of "antidirectors' rights of shareholders". On a scale from 0 to 5, the higher the factor is, the better the antidirector rights of shareholders are. China and Saudi Arabia have not been included in their study. Allen et al. (2004) demonstrate that China is a significant counterexample to La Porta et al. findings and theories on law, institutions, finance, and growth. Despite its poor legal and financial systems, China has one of the fastest growing economies in the world. Using Purchasing Power Parity formulas, China already has the second largest economy, and it is supposed that it will overtake the US and become the largest economy in the world within ten years. They gauge the factor for antidirectors' rights for China on the base of La Porta et al. (1998) with the astonishingly high result of 3. Thus, in terms of shareholder protection, China falls in between English-origin and French-origin countries. As will be shown later in the survey, in terms of disclosure enactment, China in no way deserves a quality rating close to, for example, Ireland or Malaysia.

Saudi Arabia's legal system is almost entirely based on Islamic law (Mahoney 2001). The Milken Institute (2003) has calculated a capital access index for 89 countries, using about 50 financial market-related variables. Saudi Arabia scored rank 80 of those 89. The closest countries from the panel are Brazil and Turkey, both on rank 71. Since Brazil scores 3 points and Turkey 2 points, I

estimate a 1 point rating for Saudi Arabia. Some more details about corporate governance and disclosure practices of Saudi Arabia can be found in appendix 7. The legal system origin and the antidirector rights of the countries are listed in appendix 1.

4.2 Bank-centered versus market-centered systems

Some corporate governance systems, notably those of the US and other Anglo-Saxon countries, are built on the foundation of a stock market-centered capital market. Other systems, like those of Germany and Japan, rest on a bank-centered capital market. In market-centered systems, one observes that owners typically exert formal, arm's-length input into corporate governance through the board of directors, shareholder initiatives, and the like.

Bank-centered systems are characterized by the central role played by banks and other financial institutions. Banks serve as stable shareholders with significant portions of equity. Stable banking relationships provide a significant portion of the firm's debt resources. Decisional involvement by banks is considerable, with senior managers and equity interests sharing power with banks and other financial stakeholders. Thus, rather than the arm's-length monitoring of market-based systems, bank-centered systems are built upon mutual monitoring (Dow and McGuire 2004). A further characteristic of many bank-centered systems is reciprocal shareholdings. It also endows banks with the opportunity to exercise voting rights in excess of their cash flow rights. Such pyramiding usually signals weak investor protection and thus creates a ripe environment in which principal-principal agency problems can flourish (La Porta et al. 2000). While these quasi-insider shareholders may have significant input into firm decision-making, they may also pursue private benefits to the detriment of other stakeholders. Less attention is paid to an additional systematic difference between bank- and stock market-centered capital markets: the existence of a much stronger venture capital industry in stock market-centered systems (Gilson 2000).

There is no uniformly accepted empirical definition to definitively determine whether a given country's financial system is market-based or bank-based. Previous studies use stylized facts based on a handful of countries, such as Germany and Japan as a representation of bank-based systems and the UK and the US as a prototype of market-based systems. According to Rajan and Zingales (2003), in the last 20 years the European financial system has become more market-based as a result of increasing international capital movements and the transition to a more unified European government.

Tadesse (2002) uses a variety of financial architecture indicators based on aggregate cross-country data recently compiled at the World Bank. The data set described contains measures of the relative size, activity, and efficiency of the banking sector as well as sub-sectors of the financial system over the period from 1980 to 1995. Tadesse constructs a comprehensive proxy relating the relative size of stock markets to that of banks in the financial system, the activity of stock markets relative to that of banks and the efficiency of a country's stock markets vis-à-vis that of its banks. The result of the classification and more details are presented in appendix 2.

> Hypothesis 4: Market-centered systems provide more comprehensive disclosure rules for the shareholders than bank-centered systems.

4.3 The size and integration of capital markets

In both cases, the argument is intuitive. The more players on the field and the more important the capital markets are for the wealth of an economy, the better the rules for disclosure should be in a country. The US capital market is by far the biggest in the world, still twice as large as the following markets of Japan and the UK combined. The two smallest capital markets in the sample, with around 100 billion USD in 2004 only, are those of Israel and Turkey. By comparison, that is about one third of Citigroup's market capitalization in the US only.

The capital market integration is proxied by the market capitalization of the capital markets in relation to the gross national product (GNP). The highest capital market integration is exhibited by Switzerland with almost 230%, and Singapore with 190%, closely followed by the US. Austria and Italy - with only 22% and 42% respectively - show the lowest integration. The market capitalization of the major stock exchanges and the market capitalization per GNP per country are listed in appendix 2.

> Hypothesis 5: The larger capital markets provide more comprehensive disclosure rules to the shareholders than the smaller capital markets.

> Hypothesis 6: Measured by the relation of the size of the capital market to the total annual GNP of the respective country, the higher the integration of a capital market, the more comprehensive the disclosure enactment is.

I did not find any literature that covers this question as the main focus. Moreover, with the capital market size, the probability of endogeneity in the sense of a reversed causality might be significant: Not large markets evoke good disclosure of executive remuneration, but excellent disclosure

regulations as a part of good corporate governance result in flourishing capital markets. Hence, I will confine myself to a brief rather than a more systematic and extensive analysis of this question

5 Data and the construction of the transparency index

The data set contains information about the 245 largest publicly listed banks of the world. The proxy for the size of a bank is the bank's total assets in USD per December 31, 2004 according to the overview of the top 1000 world banks in The Banker (The Banker, 2004 and 2005). To gather the 245 largest listed banks, the 390 largest banks have been taken into account. Of these banks, 138 are either state-owned or wholly privately owned and thus not publicly listed. The remaining banks represent total assets of 37.2 trillion USD and 1.61 trillion USD of book equity. A list of the banks in the panel can be found in appendix 3. Excluding the seven countries with only one publicly listed bank in the sample and, in addition, the countries with unlisted banks only among the 390 largest banks of the world, leaves out Bahrain, Chile, Cyprus, Egypt, Finland, Hungary, Iran, Jordan, Kuwait, Luxemburg, Mexico, Norway, Poland, Russia and Syria.

The banks' disclosure data for this study has been gathered primarily from the 245 individual annual reports from 2004 and/or 2003 respectively. For some of the US banks, the data source of executive compensation was obtained from company proxy statements filed with the SEC, condensed via the American AFL-CIO (2005). The countries' respective disclosure laws and regulations have been investigated up to June 2005 with the help of Ernst&Young Law International, Ferrarini et al. (2003 and 2004) and the numerous listing rules of the respective stock exchanges.

In the following, I construct a proxy for the degree of disclosure of executive remuneration. Developing the idea and technique of creating this proxy I draw on the work of Burghof and Hofmann (2004). Unfortunately, their approach is not applicable to the regulatory framework and would require more information about the individual bank. First, I apply this proxy on the country-specific rules and regulations regarding the disclosure of executive remuneration. Obviously, this requires a certain degree of interpretation, as these rules are not always very precise. For example, Japanese regulation requires the elaboration on the remuneration policy - and, indeed, all Japanese banks duly and more or less briefly confirm the existence of such a policy. However, a well-founded interpretation would at least presuppose that the extensive content and the controlling of such a policy be presented in an annual report. Hence, I always make a best guess in terms of interpreting on what is meant. Secondly, I use the proxy to evaluate the disclosure of executive

remuneration in each of the 245 banks of the sample. In some cases, the interpretation of the rules and regulations requires a higher degree of disclosure than what can be found in the reports of banks of the respective country. This discrepancy might be due to a misunderstanding of the rules and regulations on my side. However, it might also suggest a lack of enforcement. The differences between the legal framework proxies and the banks actual conduct proxy are discussed later.

The disclosure proxy is constructed as a sum of scores assigned to various elements of remuneration disclosure. These elements and their scores are listed in table 1. Since availability of information on different disclosure points is not weighted equally, I will next elaborate on the choice and importance of these measures.

Table I.1: Elements of disclosure and their weights in disclosure proxy

ELEMENT OF DISCLOSURE	**VALUE**					
	0	**0.5**	**1**	**1.5**	**2**	**3**
Disclosure of individual remuneration	no	-	aggregate only	-	-	yes
Disclosure of remuneration policy	no	-	-	yes	-	-
Form of Disclosure	no disclosure	-	annual general meeting	-	annual report	separate report
Disclosure of cash compensation	no	-	aggregate only	-	yes, individually	-
Disclosure of stock options/share programs	no	-	aggregate only	-	yes, individually	-
Disclosure of long-term incentive plans	no	aggregate only	-	yes, individually	-	-
Disclosure of pension plans	no	-	aggregate only	-	yes, individually	-
Disclosure of granted loans	no	aggregate only	-	yes, individually	-	-
Disclosure of non-monetary benefits	no	aggregate only	-	yes, individually	-	-
Disclosure of share transactions of chief executives and related persons (family and friends)	no	-	yes, Transactions of chief executives	-	yes, transactions of chief executives and related persons	-

The **disclosure of individual remuneration** achieves the most points, because a shareholder can relate the individual position of the executive member to his pay for it. Aggregate disclosure still yields one point, because as a rule of thumb, one should be able to obtain an impression of the absolute executive's pay.

The form of disclosure: The UK, Portugal and Canada require their banks to publish remuneration issues in a separate report, which is sent to the shareholders. This kind of visibility is better for the shareholder than just including it somewhere in the annual report. This justifies the three-point rating. Luxembourg requests the disclosure of remuneration not in the annual report, but just at the annual general meeting. The shareholder is not able to prepare for the discussion of remuneration-related issues, and thus there is only one point added to the disclosure proxy.

Cash compensation comprises short-term payments, and fixed as well as performance-related bonuses.

Stock options and share programs, traditionally, should ensure that the medium- and long-term aspirations of chief executives are aligned in accord with the interests of shareholders. Apparently, this part of remuneration often constitutes a very large chunk of an executive's total remuneration. On the other hand, it is very difficult to calculate the actual value of a stock option or share program related to the year of allocation. There exist several methods for estimating the theoretical future value of stock options; however, none of them ensures accurate prediction of the future value of the stocks. One frequently used method is Black and Scholes (1973). Citigroup employs the binominal model, including seven assumptions about future developments, e.g., future interest rates, average holding period, future dividend policy, and so on.

Long-term incentive plans are provided by many banks for their chief executives other than stock options or share programs. Pecuniarily however, these plans are not weighted as much as stock plans. Thus there is 0.5 fewer points added to the disclosure proxy.

Pension plans: The endowment of chief executives with pension plans seems to be pretty standard. The most accurate method for allotting the relevant, yearly expense of the pension plan for the bank is the one used by HSBC, i.e., the increase in accrued annual pensions during 2004 expressed as the difference of the transfer value of accrued pensions per January 1, 2004 and December 31, 2004 respectively. When one is trying to assess the overall value of a remuneration package, it is not very helpful to detect either no numbers at all, or, for example, the yearly pension in case of retirement. Nor is it very informative to just read some general remark, e.g., "it has been taken care of ...", or to find out that only the accrued pension of all executives has been included.

Disclosure of granted loans: Of the 245 banks in the panel, 58 disclosed having granted loans to their chief executives. While it is reasonable to assume that these loans have been issued at favorable rates, for the shareholder it might be more important to be informed about the volume of the loans granted.

Non-monetary benefits: Subsumed in this part are, for example, the company car plus chauffeur, health insurance, subsidized house purchase loans, the use of the company jet, etc.

Disclosure of share transactions of chief executives and disclosure of share transactions of related persons (family and friends): If directors or their relatives either purchase or sell shares, this incidence has to be reported on an ad hoc basis to the stock exchange in those countries, where such reporting is required. To learn of such purchases or sales in an annual report many months later cannot be satisfying for the shareholders. On the other hand, the annual report receives a great deal of attention**.** Thus, in terms of comprehensive disclosure procedures, the directors' dealings and those of family and friends will increase the disclosure proxy by one point each respectively.

The highest achievable rating for comprehensive transparency of disclosure of chief executive remuneration is 20.0 points; the lowest is 0. How the 31 countries have issued the rules about the disclosure of executive remuneration and how the respective banks actually execute disclosure of executive remuneration according to the above outlined proxy will be discussed in the next chapter.

Data for this study has been gathered primarily from annual reports from 2004 and 2003. Later reports might already show more developed behavior regarding the disclosure of executive remuneration. Information has been collected and disclosure laws and regulations have been investigated up to December 2004. Since then, corporate governance standards for various countries might have evolved. In terms of size, the annual reports for the 245 banks range from 50 to 400 pages. This allowed for many variations in the dispersion of the elements of interest regarding the disclosure of executive remuneration packages. For the purposes of this study, most if not all of the annual reports have been screened twice and in some cases even three times, just to ensure that no element has been evaluated unfairly. Often, annual reports from two years were analyzed. In addition, the investor relations pages for the bank's Web site were surveyed as well. In cases where the required information was found there, it was valued as if it had been found in the annual report. In cases where there was some uncertainty, I requested the respective investor relations departments to cross-check the findings.

6 Descriptive statistics

In this section, I first present the results of the estimation of the disclosure proxies of the countries' enactment of regulations and of the banks' actual degree of execution of the disclosure of executive remuneration. Second, I reconcile the respective country and banks disclosure proxy and elaborate

on the differences on a qualitative and quantitative level. The impact of the two existing law paradigms common versus civil law on both the countries' enactment and the banks' actual execution of disclosure will be discussed. The hypotheses are that common law countries will generally demonstrate tighter remuneration disclosure enactments and, moreover, that common law countries will enforce these rules and regulations more carefully. From this it is possible to conjecture that the quality of compliance with regulations and execution of disclosure by the market participants is higher.

6.1 Results of the estimation of the country and banks proxy of disclosure of executive remuneration

With regard to binding requirements for the disclosure of executive remuneration, I can separate the country sample into four groups as exhibited in table 2:

Table I.2: Four groups of country disclosure

Highest disclosure	**Points**	***High disclosure***	**Points**	***Low disclosure***	**Points**	***Lowest disclosure***	**Points**
Canada	19.0	Malaysia	15.0	Spain	6.5	Greece	4.0
Ireland	19.0	South Africa	15.0	Brazil	6.5	Belgium	3.0
USA	19.0	India	14.0	Japan	6.5	Singapore	1.0
UK	17.0	Italy	13.0	Denmark	6.0	China	0.0
Sweden	16.5	Taiwan	12.0	Saudi Arabia	5.5	Indonesia	0.0
		Netherlands	11.5	Australia	5.0	Israel	0.0
		Switzerland	10.0	Austria	5.0	South Korea	0.0
		France	10.0	Germany	5.0	Thailand	0.0
				Portugal	5.0	Turkey	0.0

The comprehensive composition of the country disclosure proxy is provided in appendix 4. Japan has the second-largest capital market on earth; yet, in terms of its disclosure of executive remuneration, it ranks in the lower half of the panel (more details in appendix 7).

The arithmetic average of the disclosure proxy of the common law countries is 15.04, the same number for the civil law countries is 6.34. Henceforth and in terms of the disclosure proxy, common law countries enact remuneration disclosure rules about 2.5 times better. The result is statistically significant at the 1% level. The averages are computed arithmetically, weighted by the number of banks per country. The data base for these calculations is provided in appendix 6.

The results regarding the actual compliance and execution with disclosure regulations for the banks of each country are provided in table 3. Not surprisingly, the two countries with among the most

developed and largest capital markets of the world, the US and the UK, lead the ranks together with Ireland. Countries with large capital markets like France, Spain, Germany and Italy occupy the midfield, after countries with rather small markets like Thailand, Sweden and others. At the end of the panel are the two large industrialized countries South Korea and Japan.

Table I.3: Actual bank's disclosure proxy

COUNTRY	Number of banks	Average banks' disclosure proxy	Law origin	Law system
USA	47	18.83	English	common
Canada	6	18.50	English	common
Ireland	5	17.80	English	common
Netherlands	3	17.33	French	civil
UK	11	16.86	English	common
Sweden	4	15.88	Scandinavian	civil
Thailand	3	13.83	English	common
Italy	12	13.33	French	civil
Australia	6	13.25	English	common
France	3	12.67	French	civil
South Africa	5	12.30	English	common
Singapore	3	11.67	English	common
Spain	5	11.20	French	civil
Austria	2	10.00	German	civil
Germany	8	9.63	German	civil
Belgium	3	9.50	French	civil
Portugal	3	8.67	French	civil
Israel	4	8.50	English	common
Denmark	2	8.50	Scandinavian	civil
Switzerland	5	8.30	German	civil
Malaysia	2	8.25	English	common
India	5	5.90	English	common
Saudi Arabia	3	4.17	Islamic	civil
Greece	5	3.30	French	civil
Taiwan	5	3.10	German	civil
China	8	2.19	German	civil
Japan	61	2.11	German	civil
Indonesia	2	1.50	French	civil
Turkey	4	0.38	French	civil
Brazil	4	0.25	French	civil
South Korea	6	0.00	German	civil
SUM	***245***			

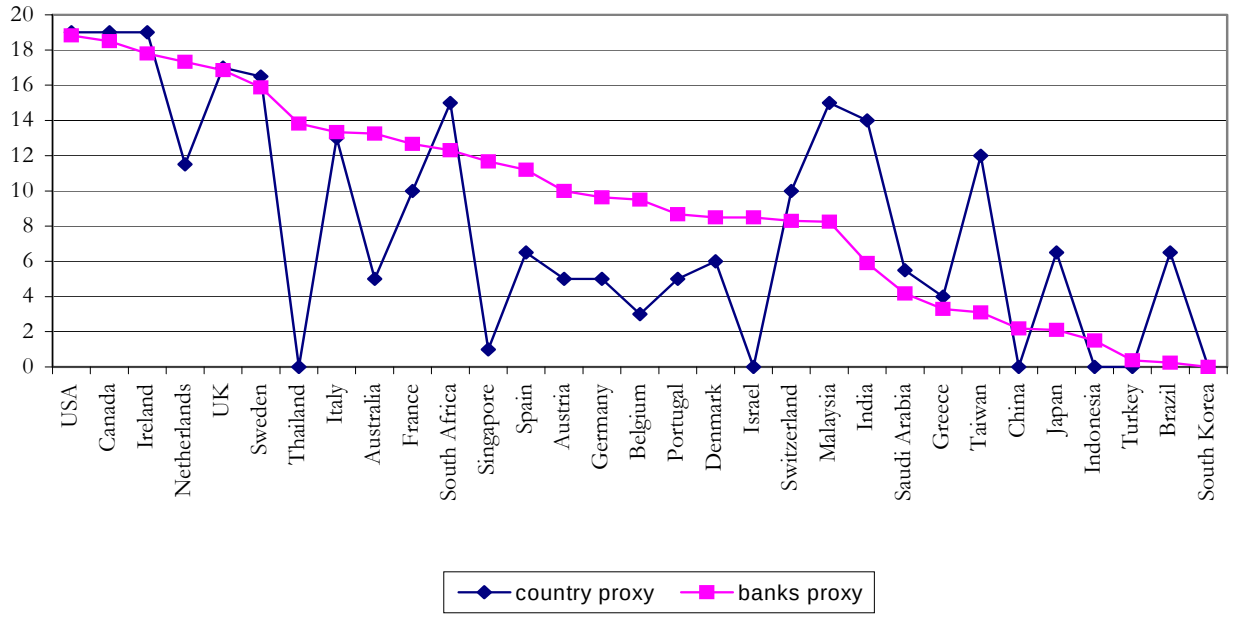
In the 20 civil law countries, there are 148 publicly listed banks in the panel. These 148 banks achieve a weighted average of 5.06 points of the disclosure proxy. In the 11 common law countries, 97 banks are included in this study. These 97 banks achieve a weighted average of 15.69 points of the disclosure proxy. As expected, the disclosure practices of banks in common law countries are more comprehensive than those of banks in civil law countries. The numbers, however, are quite

impressive: in terms of the disclosure proxy the former's disclosure measures are about three times more comprehensive than the latter's activities (statistically significant at the 1% level).

6.2 Reconciliation: compliance with the legal framework

Appendix 5 exhibits the country with its disclosure proxy value compared to the average disclosure execution proxy of the banks in the respective country. Diagram 1 shows the nexus of country and banks proxies visually. Before interpreting the results, it is necessary to reflect on the nature of the differences.

Diagram I.1: Reconciliation of banks and country disclosure



A negative deviation of a bank proxy from the respective country proxy does not necessarily indicate that the bank has broken the law. First, the annual reports and the additional information on the Internet pages about investor relations were scanned thoroughly. Apparent deviations were double-checked. All reports were screened by the numerous keywords at least twice. However, since about 245 annual reports were analyzed with each report being up to 400 pages in length, it is still possible that some information was overlooked. To reduce this possible mistake, all investor relation departments of the respective banks were contacted about the available information. Their feedback, however, was rather disappointing.

Second, due to the complexity of the issue involved, there might exist different opinions regarding what informational elements are to be reported to whom. In terms of the number of deviations, the two proxy elements "disclosure of share transactions of executives" and "disclosure of share transactions of related persons" yielded the most differences. If those transactions take place, they either have to be reported to the local security exchange commission or another financial authority or they are not to be reported at all. In case the transactions have to be reported, there is no standardized understanding by the banks as to whether and how that information should also be published in the annual report. Because the inclusion of such yearly summaries of executives' share transactions in the annual report appears to be a positive marker of good corporate governance, this element of the proxy has been added.

Third, there is plenty of room for interpretation. In the case of Brazil, for example, the enactments demand the disclosure of the remuneration policy in the annual report. The annual reports of the four Brazilian banks merely mention the existence of the remuneration committee and the prevalence of some payment policy, but they do not contain any further information. It is the interpretation of this paper that this does not live up to good international corporate governance standards. The same policy is true for the Japanese banks. According to the enactment, Japanese banks are supposed to reveal their remuneration policies. In fact, the Japanese banks mention the existence of compensation committees in their respective annual reports. However, only stating that the committee is working on "issues related to remuneration, salaries, and incentive programs and other remuneration issues", as presented in the Sumitomo Mitsui Financial Group annual report (2004, 27), does not fulfill the purpose of the regulation. Thus there exists a negative deviation between enactment proxy and bank proxy, although in terms of Japanese regulations, the bank formally complies with the rule.

Fourth, if information about an element of the proxy has not been found in either the annual report or on the investor relations page of the bank's Web site, then no points were added to the bank proxy. If either of the sources stated that some remuneration part was not used or issued, then the points for the information availability were added. Thus, a case might exist in which a bank did not use some part of a remuneration package and has not stated this explicitly, and thus receives no points since it did not address the omission explicitly. The attempts to clarify this matter by contacting the respective investor relation departments of those banks found only weak feedback. Thus, one must expect that even an investor wanting to know about these aspects would not be informed either.

In terms of the disclosure proxy, the banks in common law countries surpass countries' enactment by a factor of 4.32% (statistically significant at the 10% level), whereas the banks domiciled in civil law countries underperform by -20.20% (statistically significant at the 1% level). Furthermore, the former exceed the latter in terms of compliance with and execution of disclosure rules by a factor of 1.31, statistically significant at the 1% level. The statistic significance levels are tested by a one-tailed T-Test.

The data base for these calculations is provided in appendix 6 in a comparison of country versus banks proxy sorted by law system. The averages are computed arithmetically, weighted by the number of banks domiciled in the respective country.

6.3 Observations of disclosure habits and peer group behavior problems

6.3.1 Introduction

In this chapter, I will discuss disclosure behavior of banks in comparison with their peer groups (inmate's dilemma) and with respect to the countries' enactment (fortress' dilemma). The intuition of this part of the chapter is captured by the paper of Bhattacharya and Daouk (2004). The method applied is an analogy of the prisoner's dilemma as a classic strategic game, of which many versions have appeared in the social sciences (Fudenberg and Tirole 1991). For the purpose of the following analysis, I include in a bank's peer group all other banks domiciled in the same country. Admittedly, this definition has weaknesses. On the one hand, even within national boundaries banks are heterogeneous in their business goals and activities so that a bank's genuine peer group would be a certain subset of all banks in the country. However, a finer differentiation of peer groups within countries is impossible with the sample since for a number of countries only a few observations are available. On the other hand, globalization and - in the wake of it - the internationalization of the financial sector diminish the relevance of national identity. Particularly, banks seeking cross-border expansion or listing on foreign stock exchanges may boost disclosure beyond national requirements if they do not match the requirements of the host country or perceived standards of the international investor community. Still, the national definition of a peer group captures the importance of geographic proximity and homogenous institutional, cultural and legal environment - including country-level disclosure regulation. I briefly return to the issue of under- or overaccomplishment of the national disclosure regulation at the end this chapter.

6.3.2 Inmate's dilemma

With regard to the inmate's dilemma, taking country averages of banks' disclosure proxies as a de facto country disclosure standard, I want to investigate whether and to what extent individual banks deviate from that practice - or, in other words: what are the differences in disclosure behavior within peer groups? I expect individual banks at the low and high ends of disclosure probability distribution to show more or less uniform disclosure habits. If there exist low overall disclosure habits among banks in one country, the executives will not be motivated to act as role models and disclose more than their peers. On the other hand, if banks in a country adhere to high standards in terms of their disclosure of executive remuneration, their peer group will follow close by. Third, if the remuneration disclosure by banks in one country is "stuck in the middle" in terms of quality and transparency, there will be a high degree of uncertainty as to what to publish.

To gain insight into these issues, the banks in the 31 countries of the sample will be divided into three portfolios, each covering one third of the total disclosure proxy range (0 to 18.83). For the upper boundary, I chose the highest actually achieved average proxy value (18.83) rather than the theoretically achievable 20 points.

The weeds (W): The banks in countries whose average disclosure proxy falls in the lower third of the actual disclosure distribution (0 to 6.28) will be included here. This portfolio covers 10 countries of the sample (see table 4). In alternative calculations of the mean and the standard deviation one outlier - the Hong Kong based Bank of East Asia (BEA) - has been excluded from the weeds portfolio. BEA operates a global network of over 150 outlets covering Hong Kong and the rest of Greater China, the United States, Canada, the United Kingdom, the British Virgin Islands, and Southeast Asia. BEA's annual reports have been based upon the British corporate governance standards and it scored 16 disclosure points as compared to 0 for the other six Chinese banks and 1.5 points for the Bank of China.

The rank growths (RG): In this portfolio there are 11 countries whose average disclosure magnitude in banks is in the middle third of the total disclosure range (6.29 to 12.55).

The corns (C): The 10 countries with the highest standards of disclosure are included in this portfolio. The average proxies can take on values between 12.56 and 18.83.

For the reasons discussed above, I assume that executives will not voluntarily disclose their remuneration. They will only do so in case they are forced to either by law or by peer pressure. If the common average disclosure magnitude of banks in one country is very low, then there is only a low risk of investors or the public penalizing directors for poor disclosure habits. Thus the comfort

of not publishing one's pay is high. The hypothesis for the weeds is that if all banks in one country on average have low disclosure standards, then there will be a low deviation from that habit. Matters differ for the rank growths in the respective countries. The peers in one country of a particular bank's executive on average have implemented solid disclosure standards. Yet, there are banks with greater disclosure in other countries, and still others, like the weeds, that practice hardly any disclosure at all. So the range of possible actions is large, the uncertainty of the outcome is high. Hence, I assume that banks in this midfield of disclosure will demonstrate the highest variation in the disclosure proxies. Finally, the banks of the corn portfolio primarily face peers who adhere to the highest standards of disclosure of remuneration. Playing in that league, one cannot afford to deviate. Consequently, executives are likely to uniformly follow the high standard of disclosure and variation in the disclosure proxies of this portfolio is expected to be limited.

To test these hypotheses I use unweighted descriptive statistics for each country and for the three portfolios. Since the number of banks for most of the countries in the sample is fairly small, my conclusions probably cannot be extended to the entire bank population in the respective countries. Table 4 summarizes statistics for the three portfolios. "-" means underaccomplishment of legal requirements.

I use a simple and straightforward measure for the deviation of individual banks from peer group disclosure standards - the standard deviation of bank's disclosure proxies computed for each country. To control for biases introduced by possible outliers - which would weigh particularly heavily in the small sample setting - I also compute the mean absolute deviation from the mean and the median absolute deviation from the median.

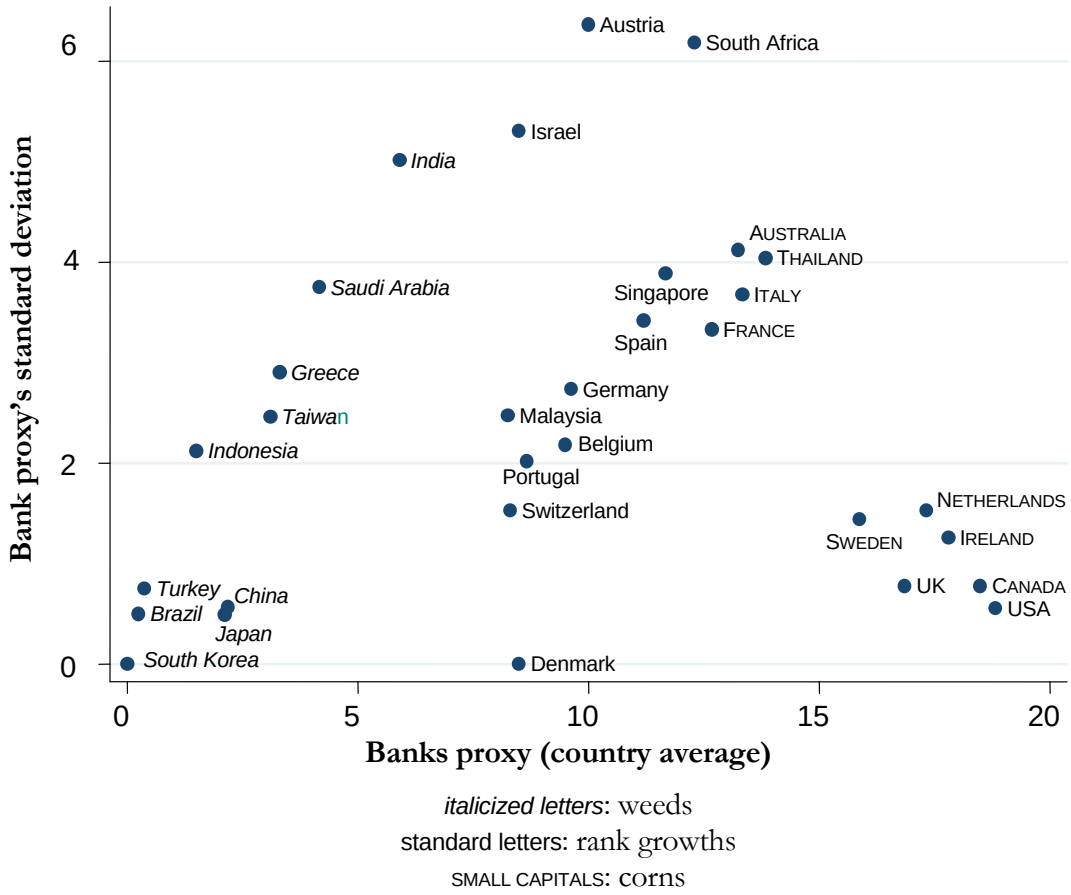
By measuring deviation, I intend to capture the uncertainty of individual banks as to what to disclose in the context of their peer group. As expected, the rank growths exhibit on average the greatest uncertainty: The mean standard deviation of countries in this portfolio is 3.28 as opposed to 1.86 for the weeds and 2.15 for the corn portfolio. Testing the statistical significance of those differences via a one-tailed T-test, the rank growths to weed portfolio difference is significant at the 5% level, the rank growths to corn at the 10% level. Also, the maximum standard deviation within a portfolio is largest for the middle third - i.e. the rank growth portfolio.

Table I.4: Peer group dilemmas, database

	COUNTRY	Number of banks in sample	Mean	Median	Standard deviation	Mean absolute deviation from the mean	Median absolute deviation from the median	Deviation of bank's disclosure proxy from country proxy
Portfolio I (W)	South Korea	6	0.00	0.00	0.00	0.00	0.00	0.00
	Brazil	4	0.25	0.00	0.50	0.38	0.00	-6.25
	Turkey	4	0.38	0.00	0.75	0.56	0.00	0.38
	Indonesia	2	1.50	1.50	2.12	1.50	1.50	1.50
	Japan	61	2.11	2.00	0.49	0.25	0.00	-4.39
	China	7	0.21	0.00	0.57	0.37	0.00	0.21
	Taiwan	5	3.10	2.00	2.46	1.76	0.00	-8.90
	Greece	5	3.30	2.00	2.91	2.08	0.00	-0.70
	Saudi Arabia	3	4.17	2.00	3.75	2.89	0.00	-1.33
	India	5	5.90	3.50	5.02	4.08	1.50	-8.10
	Portfolio mean		**2.10**		**1.86**	**1.39**	**0.30**	**-2.66**
	Portfolio median			**1.75**			**0.00**	**-1.02**
	Correlation coefficient							**0.55**
Portfolio II (RG)	Malaysia	2	8.25	8.25	2.47	1.75	1.75	-6.75
	Switzerland	5	8.30	8.00	1.52	1.16	1.00	-1.70
	Israel	2	8.50	8.50	5.31	0.00	0.00	8.50
	Denmark	4	8.50	10.25	0.00	3.75	2.00	2.50
	Portugal	3	8.67	7.50	2.02	1.56	0.00	3.67
	Belgium	3	9.50	10.5	2.18	1.67	0.50	6.50
	Germany	8	9.63	9.75	2.74	2.25	2.25	4.63
	Austria	2	10.00	10.00	6.36	4.50	4.50	5.00
	Spain	5	11.2	10.50	3.42	2.84	3.00	4.70
	Singapore	3	11.67	10.50	3.88	2.89	2.00	10.67
	South Africa	5	12.30	13.00	6.18	4.12	3.00	-2.70
	Portfolio mean		**9.68**		**3.28**	**2.41**	**1.82**	**3.18**
	Portfolio median			**10.00**			**2.00**	**4.63**
	Correlation coefficient							**0.10**
Portfolio III (C)	France	3	12.67	13.50	3.33	2.44	2.00	2.67
	Australia	6	13.25	15.00	4.12	3.00	1.00	8.25
	Italy	12	13.33	14.50	3.68	3.06	1.50	0.33
	Thailand	3	13.83	14.50	4.04	2.89	3.00	13.83
	Sweden	4	15.88	15.25	1.44	1.06	0.25	-0.63
	UK	11	16.86	16.50	0.78	0.53	0.00	-0.14
	Netherlands	3	17.33	17.00	1.53	1.11	1.00	5.83
	Ireland	5	17.80	17.50	1.25	0.96	1.50	-1.20
	Canada	6	18.50	19.00	0.77	0.67	0.00	-0.50
	USA	47	18.83	19.00	0.55	0.30	0.00	-0.17
	Portfolio mean		**15.83**		**2.15**	**1.60**	**1.03**	**2.83**
	Portfolio median			**15.87**			**1.00**	**0.10**
	Correlation coefficient							**0.63**

Diagram 2 illustrates the positions of countries in terms of their average disclosure in banks and disclosure proxy's standard deviation. Both the mean absolute deviation from the mean and the median absolute deviation from the median exhibit the same patterns as the standard deviation: on average they take on the largest values for the rank growth portfolio.

Diagram I.2: Relationship between banks' average disclosure proxy and proxy's standard deviation within countries



6.3.3 Fortress' dilemma

Next, with regard to the fortress' dilemma, I consider the deviation of a bank's disclosure proxy from the country proxy (bank's disclosure proxy minus country disclosure proxy). With respect to the hypothesis, the conjecture is that banks in countries with high standards of enactment concerning the disclosure of executive remuneration will generally adhere closely to the countries' laws and regulations. Banks in countries with low enactment concerning disclosure will be uniformly reluctant to publish and will disclose as little as possible. Third, banks in countries with

mid-range enactment will demonstrate the highest uncertainty as to what to publish or not to publish. Thus, in this third category, the highest deviations between the countries' enactment proxy and the banks actual disclosure proxy will appear.

First, I compute correlation coefficients between individual banks' disclosure proxies and country proxies for each of the three portfolios. The correlation coefficient is the metric for the degree of the banks adherence to the respective countries enactment. For the weeds, the correlation coefficient is 0.55. The highest correlation between national disclosure regulation and bank execution is found for the corn portfolio (0.63). For the rank growths the correlation is particularly low (correlation coefficient of 0.1); as can be seen in table 4, banks in this portfolio have the greatest tendency to voluntarily overaccomplish national requirements. Testing the statistical significance of those differences via a one-tailed test, the rank growths to weed portfolio difference is significant at a 1% level, the rank growth to corn at a 10% level.

Furthermore, deviations of banks' actual disclosure habits from these requirements (both overaccomplishment and underaccomplishment) can be observed frequently as exhibited in table 4. In the weeds portfolio, the prevalent pattern is an underaccomplishment of national disclosure standards. The average underaccomplishment is -2.66 points, whereas the maximum deviation exhibited by Indian banks is strikingly large (-8.9 points). The rank growths portfolio on average tends to overaccomplish the national regulation by 3.18 points. A notable feature of this portfolio is the wide range of possible deviations from the national metric: the best overperformers are Singaporean banks, whose average disclosure proxy is 10.67 points higher than the country disclosure proxy, whereas Malaysian banks on average score 6.75 fewer disclosure points than are required by national regulation. In the corn portfolio, five of ten countries have lower disclosure scores than required by national regulation; their underaccomplishment, however, is modest compared with other portfolios, achieving its maximum at 1.2 points. On the other hand, the corn portfolio contains the greatest overachiever Thailand, whose banks voluntarily disclose most of the relevant information on executive remuneration, achieving on average a disclosure score of 13.83.

7 Testing the hypotheses: regression analysis

In this section, I first test the 6 hypotheses of section 4 on the country level and then on the bank level via a regression analysis. A further robustness check, employing a multi-factor model at the bank level, will be estimated.

The hypotheses of section 4 are tested with Ordinary Least Squares regressions. I conducted a Beusch-Pagan test to confirm homoscedacity. To test hypotheses 1 to 6 via regression analysis, the explanatory variables are defined as follows. A dummy variable for the law system of a country differentiates between countries with common and civil law. The antidirector rights variable is supposed to epitomize an estimator for the magnitude and quality of the overall corporate governance of a country. These proxies stem from La Porta et al. (1998) and have been developed and tested as an index aggregating shareholders rights, which is used as a proxy for the quality of enactment of corporate governance. The financial system of a country, either market-based or bank-based, was also coded as a dummy variable. The market size is measured as the absolute size of the major stock markets of a country in USD. The degree of capital market integration and of national stock market development is defined as the share of a country's stock market capitalization in relation of the country's GNP. The dependent variable in this section is the country-level disclosure proxy.

The regression results are reported in table 5 below. The second column contains coefficients of one-factor regressions establishing separate, linear relationships between each explanatory variable, listed in column one, and the country disclosure proxy. Column three contains regression coefficients of a multivariate regression of the country proxy on all explanatory variables. Each model contains an intercept (not reported). Standard errors are shown in parentheses and 1%, 5% and 10% significance levels are indicated with **, * and # respectively.

In the full sample multivariate regression, the proxy for Singapore shows the greatest negative deviation from the actual proxy. It significantly exceeds those for other countries, suggesting it might be an outlier. Singapore has an English common law tradition, is home to a market-based financial system and possesses the second highest capital market integration after Switzerland. Yet Singapore yields only one point at the country's enactment disclosure proxy. The absolute size of Singapore's capital market is relatively small and exhibits a high concentration of the companies listed. The disclosure figure assigned to Singapore's ranks among the upper quartile of all the banks. Thus, it adheres to very high standards of disclosure, as was to be expected considering the hypothesis. A possible explanation is the strong and unquestioned authority of the ruling government. Even though disclosure requirements are issued as voluntary listing rules, the actual enforcement by federal authorities and the execution of the transparency by Singaporean banks

compares to that of a strict law in other countries. In regression results reported in the next table, Singapore has been excluded from the sample[1].

Table I.5: OLS estimates with country proxy as dependent variable (30 observations, without Singapore)

	COEFFICIENTS AND STANDARD ERRORS	
	bivariate regressions	**multivariate regression with all explanatory variables**
Law paradigm	6* (2.252)	0.367 (4.519)
Law origin	2.274** (0.740)	1.382 (1.801)
Antidirector rights	2.118* (0.831)	-0.704 (1.368)
Financial system	6.028** (2.142)	3.493 (2.534)
Market size	7.19e-07# (3.72e-07)	3.51e-07 (4.01e-07)
Capital market integration	6.377** (2.117)	3.573 (2.392)
Adjusted R^2 in multivariate regression		0.275

Bivariate regressions all yield positive coefficients, significant at the 1% and 5% levels with the exception of that on market size, which is significant only at the 10% level. Bivariate regressions, however, are likely to suffer from endogeneity and omitted variable problems. Including all factors that are hypothesized to impact disclosure quality together in a multivariate regression weakens the statistical results: all of the explanatory variables become insignificant at conventional significance levels and the coefficient on antidirector rights changes the sign, implying an inverse relationship that runs counter to hypothesis 3. The two countries with the highest differences between strong antidirector rights and weak disclosure rules are Israel and Thailand. These two countries possess common law systems. Their democracy, on the other hand, is either distressed as in the case of Israel or does not comply with modern understanding as in the case of Thailand.

Statistical insignificance of estimated coefficients resulting from large standard errors can be a consequence of multicollinearity in the multivariate regression. For instance, the correlation

[1] The full sample regressions, where Singapore has been included, yield somewhat smaller magnitudes of estimated coefficients and a change in sign of coefficients on antidirector rights and law origin in the multivariate regression, as well as a lower R^2 of 0.13. In general, the exclusion of Singapore from the sample shows better fit of the model to the data, whereas most of the tested relationships remain largely robust to its presence (with the exception of law origin).

coefficient between law paradigm and antidirector rights is 0.68, between law paradigm and law origin 0.88, between antidirector rights and financial system 0.57, between law origin and financial system 0.55, and between law origin and antidirector rights 0.76. Moreover, the relatively small sample size of 30 observations makes reliable judgments about accuracy and statistical significance difficult.

To alleviate problems arising from multicollinearity, I condense data via factor analysis. For the purposes of factor analysis, the data matrix was standardized. Using principal components for variance decomposition, two factors were identified that together account for 74% of variance. After one rotation, these two factors can be best interpreted as "legal environment", where law paradigm, law origin, financial system and antidirector rights load heavily, and as "market size effect", where market capitalization in USD and market cap as a share of GNP weigh in heavily (see table 6 below).

Table I.6: Legal environment and market size effect factor loadings

VARIABLE (standardized)	Factor 1 (legal environment)	Factor 2 (market size effect)
Law paradigm	0.946	0.107
Law origin	0.946	0.107
Financial system	0.629	0.200
Antidirector rights	0.769	0.386
Capital market integration	0.254	0.757
Market size	0.094	0.876

Regressing the country disclosure proxy on the two factors yields positive coefficients on both (2.855 and 2.601), legal environment being significant at the 1% level and market size effect at the 5% level. The model has an adjusted R^2 of 0.32.

A similar OLS regression setup has been implemented with country averages of the banks' disclosure proxies as the dependent variable for the full sample of 31 countries. Singapore banks are included because their actual disclosure habits are no outlier in contrast to the country's disclosure enactment. The results are largely similar to those obtained for the country proxy, although market size loses its significance even in the one factor regression while statistical significance of law paradigm and law origin strengthens. Interestingly, the estimated coefficient on law paradigm in the multivariate regression is also larger in magnitude than in the previous regression, predicting a 2.3 difference in disclosure scores for banks domiciled in common and civil

law countries as opposed to 0.367 estimate from the regression with the country-level proxy as the dependent variable. This could mean that a country's legal tradition has a stronger effect on disclosure practices of banks themselves than on their formal legal enactment in a given country. However, since the standard errors of the estimates are very large, these results fail to be validated statistically.

Table I.7: OLS regression estimates with bank disclosure proxy as dependent variable

	COEFFICIENTS AND STANDARD ERRORS	
	bivariate regressions	**multivariate regression with all explanatory variables**
Law paradigm	6.146** (1.915)	2.309 (4.244)
Law origin	2.174** (0.646)	1.493 (1.703)
Antidirector rights	1.770* (0.769)	-1.231 (1.290)
Financial system	5.154* (1.938)	3.056 (2.382)
Market size	5.44e-07 (3.46e-07)	4.48e-07 (3.73e-07)
Capital market integration	3.733# (1.956)	0.387 (2.129)
Adjusted R^2 in multivariate regression		0.221

Here too, the small sample size and especially multicollinearity are likely to account for weak statistical results in the multivariate regression. Applying factor analysis, with "legal environment" and "market size effect" being the two main factors as defined in the country analysis above, and regressing the country-average bank disclosure proxy on the two factors yields positive coefficients on both factors. The estimated coefficient on the factor for legal environment (2.936) is significant at the 1% level while that on market size effect (1.434) at the 5% level, similarly to the regression on the country proxy. The adjusted R^2 of the regression is 0.26.

To summarize, there appears to be evidence for positive relationships between disclosure standards and country-level legal and market determinants as expressed by law paradigm, law origin, type of financial system, and capital market integration. The relationship between disclosure and antidirector rights remains unclear, since the sign of the coefficient on the antidirector rights proxy proves to be sensitive to the number of regressors. In general, there is stronger statistical evidence for the relevance of legal system features for the level of disclosure standards than of market size effects.

A word of caution is due. As mentioned above, the small sample size and multicollinearity are important constraints in judging the model's reliability and interpreting the estimates. Furthermore, the model assumes that all of the factors hypothesized to influence disclosure are exogenous. However, variables such as capital market size and capital market integration can both influence and be influenced by the level of disclosure, since better corporate governance can be expected to boost investor confidence and thus induce capital market growth. It is also possible that disclosure enactment and systemic features such as type of financial system or legal tradition are jointly determined by another, hardly quantifiable, variable such as a country's culture or a certain path dependence. In this case the exogeneity assumption and estimation consistency would be violated. Therefore I take the simple econometric analysis presented above to be an indication of general relationships and correlations rather than a detailed model description.

8 Conclusion

In this part of my thesis, I analyze the quality of executive remuneration disclosure achieved by the 245 largest listed banks in 31 countries. Using information on country-level disclosure requirements and information on executive pay contained in annual reports of the banks for the year 2004, I constructed numeric proxies to measure disclosure standards both at country and individual banks levels. These proxies allow to test hypotheses about relationships between disclosure quality and legal, financial and capital market features of the countries in the sample.

One of the structuring distinctions is between countries whose legal tradition originated in the English common law and those with a civil law paradigm. Descriptive statistics suggests that in terms of the disclosure proxy, common law countries enact remuneration disclosure rules about 2.5 times better than civil law countries, and, banks located in countries with the common law tradition on average have more than three times higher disclosure scores compared to banks in civil law countries. Also, banks in common law countries generally surpass country-level disclosure requirements, whereas those in countries with civil law tradition seem to fall short of the disclosure levels prescribed by the law.

The regression analysis explores the impact of market-based versus bank-based system, law origin and paradigm, antidirector (shareholder) rights as well as capital market size and integration on disclosure quality of countries and, in particular that of banks, in the respective countries. The strongest evidence I obtain is for the importance of law paradigm and type of financial system for average levels of disclosure. The relationship between disclosure and antidirector rights remains

unclear, since the sign of the coefficient on the antidirector rights proxy proves to be sensitive to the number of regressors. In general, there is stronger statistical evidence for the relevance of legal system features for the level of disclosure standards than of market size effects.

Part II

Do Capital Markets Honor Good Disclosure of Executive Remuneration?

Disclosure of executive remuneration by the 245 largest listed banks of the world and the impact on the cost of equity capital and/or stock performance

1 Introduction

Following the controversial public debate about executive remuneration disclosure, it seems that supporters often argue the case from the perspective of the shareholder or the interested public. Yet, there is an aspect to executive information disclosure that should be appealing to the shareholder and the executive officer alike. Good executive information disclosure might create a win-win situation. For shareholders, the question of executive remuneration disclosure is part of the information risk associated with their investment in a company. Less knowledge means higher, better knowledge lower information risk. The former translates into higher, the latter into lower risk premiums demanded by investors. In this respect, the shareholder's and the executive's interests concur: while the investor is interested in a reduction of risk, managerial staff seeks to cut the cost of equity capital.

In the literature, there is plenty of evidence that information disclosure lowers investment risks and hence reduces capital costs and/or improves stock performance. With this in mind it seems surprising that an analogous relationship between executive remuneration disclosure and the cost of equity capital has not been surveyed separately as of yet. Hence, in part two of the thesis I ask if one could generate significant statistic evidence in support of the hypothesis that better executive remuneration disclosure leads to reduced cost of equity capital and/or a better stock performance.

The outline of part two is as follows. Section two gives an overview of the literature on the relationship between information disclosure activities as well as other elements of corporate governance and the cost of equity capital. In section three, the methodological approach is described and possible criticism discussed. Section four comprises the detailed arguments for each of the four employed paradigms. Four common proxies for either stock performance, volatility and/or cost of equity capital will be analyzed: long/short spreads, Sharpe ratios, price-earnings ratios, and Tobin's qs. Section five concludes.

2 Information risk and the cost of equity capital

Important as the issue may be, the link between disclosure levels and cost of equity capital is not well established and is difficult to quantify. Barry and Brown (1985) suggested that the greater the degree of disclosure is, the smaller parameter uncertainty and estimation risk become. In rebuttal, Berton (1994) argues that advanced disclosure activities target stock traders, a practice which would add to share price volatility, thereby increasing risk and leading to a higher cost of capital. Obviously Berton's theory, while interesting, was not adopted by later researchers. Botosan (1997)

remarks that the extent to which firms benefit from increased disclosure levels remains a controversial issue. La Porta et al. (2002) argue that, although outside investors can protect themselves against bad corporate governance by lowering the price they are willing to pay for shares, the effect of such protections on valuation has not yet received comprehensive attention.

Two lines of research can be distinguished. The first concentrates on the relationship between the cost of equity capital and information disclosure activities in particular. The second group of studies focuses on the cost of equity capital as it relates to all elements of corporate governance. As disclosure of information is vital to every aspect of corporate governance, both types of studies are relevant for this research.

Many of these studies suggest more or less forcefully that there is a direct relationship between good corporate governance or disclosure of information and lower cost of equity capital. More specifically, most first-run studies support at least one of the following hypotheses:

- Good information disclosure reduces the information risk of the investor.
- Foreigners invest less in companies with poor corporate governance.
- Poor disclosure of information results in lower liquidity of the stock transactions.
- The relation of private and public information impacts the cost of equity capital.

In the following, some of the most current and exemplary studies will be briefly summarized. Clarkson et al. (1996) document a negative association between public disclosure and the cost of equity capital**.** To the extent that public disclosure reduces estimation risk borne by the investors, these results support the conjecture that estimation risk is systematic risk and hence, priced into the capital market. Analyzing a sample of 122 manufacturing firms in the USA, Botosan (1997) finds that greater disclosure is associated with a lower cost of equity capital. However, she finds no evidence of an association between her proxy for disclosure and cost of equity capital for firms with a high analyst following. Botosan and Plumlee (2002) examine the effect of total disclosure and the cost of equity capital and find, contrary to their expectations, that greater total disclosure is not associated with a lower cost of equity capital. However, firms that provide greater disclosure in the annual reports do benefit in terms of a lower cost of equity capital, amounting to an approximately 0.7 percentage point difference between the most- and least-forthcoming firms. One especially interesting finding is that the timelier the disclosure is, the higher is the cost of equity capital, adding weight to the argument that better disclosure increases stock volatility.

Recent research (La Porta et al. 1997, 1999c, 2000) strongly supports the idea that the extent of legal protection of investors in a country is an important determinant of the development of its

financial markets. Where well-enforced laws protect outside investors, these are willing to finance firms. In contrast, where laws are unsupportive of investors, the development of financial markets is stunted. When the rights of investors are better protected by law, outside investors are willing to pay more for financial assets such as equity and debt. They pay more because they recognize that, with better legal protection, more of the firm's profits will come back to them as interest or dividends as opposed to being expropriated by corporate insiders.

Gompers et al. (2001 and 2003) analyze about 1.500 US firms from 1990 to 1999 using 24 possible provisions against good corporate governance. The authors form a "democrats" portfolio, proxying the decile of firms with the best corporate governance, and a "dictatorships" portfolio, comprising the decile of firms with the highest provisions against shareholders rights. Going long with the democrats shares and short-selling the dictatorships stocks yields an abnormal stock excess return of 8.5% annualized from 1990 to 1999.

Similarly, Lombardo and Pagano (2000) argue that disclosure simply reduces out-of -pocket costs for obtaining concise information. This suggests that when a country lowers information risks through excellent corporate governance regulation, foreign investors invest more. Recent research generally supports this assertion. Gelos and Wei (2005) find that less opaque emerging market countries have greater weights in mutual fund portfolios. Aggarwhal et al. (2005) show that US mutual funds overweigh emerging markets that have stronger accounting standards, shareholder rights and legal frameworks. On the firm level, they also conjecture that an US listing is associated with a substantial increase in foreign investment.

As domestic sources of outside financing are limited in many countries around the world, it is important to understand the factors that influence foreigners to provide capital to a country's firms. A study by Leuz et al. (2005) examines whether and why investors' concerns about corporate governance result in fewer foreign holdings. They use a comprehensive set of foreign holdings by US investors as a proxy for foreign investment and analyze a sample of 4,411 firms from 29 emerging markets and developed economies. The authors assert that foreigners invest significantly less in firms that are poorly governed, i.e., firms that have ownership structures that are more conducive to outside investor expropriation. Interestingly, this finding is not simply a matter of a country's economic development but appears to be directly related to a country's legal institutions and information rules. They therefore argue that information problems faced by foreign investors play an important role in this result.

The idea that the effects of high or low levels of information disclosure could be more pervasive than our simple capital asset-pricing models have thus far considered is eventually suggested by Easley et al. (2002). In traditional asset-pricing models, the answer to the question of whether a higher probability of private information-based trading should have an effect on its required return is negative. This is because these models rely on the notion that if assets are priced efficiently, then all information is already incorporated into the share price and hence need not be considered separately. A difference of 10 percentage points in the probability of information-based trading between two stocks leads to a difference in their expected returns of 2.5% per annum. Hence, if corporate governance impacts asset prices systematically, then a consideration of the capital asset pricing models should be expected. Easley and O'Hara (2004) conclude that estimation risk is not captured in the traditional CAPM market beta, but is nondiversifiable and, accordingly, should be priced.

Focusing on the analysis of information symmetries, previous papers already propose that public information attenuates information asymmetries, and thus reduces the cost of equity capital. This second line of research supposes that the increased cost of equity capital with regards to information asymmetry results from investors' demands for compensation for expected transaction costs deriving from possible illiquidity or the potential risk associated with dealing with better informed players (Verrecchia (2001)). Diamond and Verrecchia (1991) conclude that reducing the asymmetry of information between insiders and outside investors will increase the liquidity of the market for a firm's stock, thus inducing large institutional investors to invest. To have low cost equity capital, especially large firms must attract large positions from institutional investors. If the initial information asymmetries are large for such firms, reducing them will increase the current price of the security.

An early line of research, presented by Amihud and Mendelson (1986), argues that the cost of equity capital appears through increases in the bid-ask spread. They offer empirical evidence for this conjecture by showing a positive correlation between security returns and the bid-ask spread after adjusting for beta, size and residual risk. Information disclosure affects the cost of equity capital through its effect on information asymmetry. Bid-ask spreads could be reduced by increasing the liquidity of the respective stock. Liquidity increase could be construed as having resulted from greater information disclosure, going public compared to private placement.

Greater disclosure enhances stock market liquidity, thereby reducing the cost of equity capital either through reduced transaction costs or increased demand for a firm's securities (Glosten and Milgrom 1985).

The last set of studies analyzes the magnitude and/or the relation of private information to public information and its impact on the cost of equity capital. The two major insights in modern finance are the effects of diversification, i.e., that idiosyncratic risk premiums vanish in large economies, and price discovery, the revelation of private information in equilibrium prices. While the implications of diversification for risk premiums are well known from the extended CAPM and APT under homogeneous beliefs, less is understood about how private signals impact risk premiums (Hughes et al. 2005). The authors investigate the effects of private information and diversification on risk premiums in a noisy rational expectations model in which risky asset payoffs have a factor structure. The authors show that the APT pricing relation holds with asymmetric information. Consistent with intuition, factor-risk premiums decrease according to the ratio of informed to uninformed investors.

Accordingly, Botosan et al. (2004) find an inverse relationship between the cost of capital and the precision of public information, but a positive relationship between the precision of private information and the cost of equity capital. The authors suggest that the results have implications for both managers and academics. The association between the precision of public and private information combined with their opposing effects on the cost of equity capital implies that a manager must consider the relationship between the precision of public and private information when determining the firm's corporate reporting strategy.

Further support for the effect of good corporate governance in reducing the cost of equity capital can be drawn from Hail and Leuz (2005). They examine the cost of capital and cash flow effects of cross-listings in the US and provide strong evidence that cross-listing on a US exchange reduces the firms' cost of capital. These effects are larger for firms from countries with weaker institutional structures, and are thus consistent with the idea that cross-listing is a way to opt out of the home country's institutional framework.

Bhattacharya et al. (2001) document findings that suggest that, after controlling for other influences, an increase in overall earnings opacity in a country is linked to an economically significant increase in the cost of equity and an economically significant decrease in trading in the stock market of that country. They constructed a panel data set of earnings aggressiveness, loss avoidance and earnings smoothing. The motivation for their theories and research stemmed from observations regarding the previous decline of the US equity markets, which had been attributed to investors' concerns over corporate governance and, hence, demands for higher rates of return to compensate for increased information risk.

Beiner et al. (2006) analyzed a sample of representative Swiss firms with a comprehensive description of firm-level corporate governance. Their results support a positive relationship between corporate governance and firm valuation. For the median firm in the sample, a one standard deviation increase in the corporate governance index causes an increase of the market capitalization by at least 12% to the respective company's book asset value.

In South Korea, analyzing 246 firms listed at the KOSPI, Kato et al. (2005) reveal for the first time that overall significant executive pay-performance link is driven by non-Chaebol (high relevance of corporate governance) firms and that no such link exists for Chaebol (thus low corporate governance) firms. The evidence is consistent with the recent literature on the nature of Chaebols in Korea and the current corporate governance reform efforts in Korea that are aimed mostly at Chaebol firms.

Most of the previous research assumes that good corporate governance and/or good information disclosure reduces information risk and, hence, causes reduced cost of equity and/or higher firm valuations. Of course there is a hen-or-egg problem: Alternatively, companies with lower cost of equity capital and or higher equity valuations could be likely to deliberately select better standards of information disclosure and a better level of corporate governance. In that case, good information disclosure and/or good corporate governance would be a proxy for another omitted nexus variable, reconciling governance and performance. Thus, endogeneity concerns will have to be considered.

Another vital part of information disclosure is the quality and precision of earnings reports. The following question arises: is there a detectable nexus between earnings management and/or income smoothing and information risk? Using "information risk" and "information uncertainty" as synonymous terms, Fancis et al. (2003) define the latter as "the precision of an investment signal".

In total, the literature supports a directional prediction that greater public information reduces information asymmetry and, in turn, the cost of equity capital (Botosan et al. 2004). While the importance of executive remuneration disclosure to corporate governance is widely acknowledged in the literature, lack of relevant data has prevented researchers from investigating a possible impact on the cost of equity capital more closely. Hence, a focused effort to test the hypothesis that good disclosure of executive remuneration reduces the cost of equity capital suggests itself. This leaves this core question: Is it possible to analyze the quality and quantity of the disclosure of executive remuneration so as to generate a statistically detectable, relevant difference in the cost of equity?

3 Research design and methodological approach

In this part of the thesis, I draw on the database provided in the first part. With respect to the explanatory power of the transparency index to the cost of equity capital and/or stock performance, four strategies are analyzed and evaluated.

First, section 4.1 investigates what the risk spread would be like if one, from January 1999 on, had gone long with the stocks of the twenty percent of the banks displaying the highest disclosure proxies and, concurrently, had sold short the twenty percent with the lowest disclosure proxies. This investment strategy considers the stock prices from January 1999 to June 2005 on a monthly basis, all foreign currencies converted to the USD on the respective monthly basis. Being rather an observation, there is naturally very limited explanatory thrust to this model.

Second, in order to evaluate the stock performance in relation to the inherent volatility, in section 4.2 I compute the Sharpe ratio, again using stock prices from January 1999 to June 2005. It is hypothesized that the better the disclosure on either the banks level or the country level is, the higher the Sharpe ratio will be, i.e., the better the risk-adjusted performance of the stock.

Third, in section 4.3 I address the cost of equity capital employing the price-earnings ratios (henceforth: P/E ratios) of all banks for the accounting year 2004 as well as the 10-year government bond returns of the respective 31 countries. According to the conjecture, stock buyers are willing to pay a premium for the stocks of banks displaying excellent disclosure of executive remuneration, thus generating higher P/E ratios. On the other hand, banks that exhibit bad disclosure of executive remuneration will be penalized with low P/E ratios. The bivariate proxy P/E ratio considers the price and the earnings of the banks. Yet it neglects the alternative yield possibilities of investors in the 31 different countries - specifically the fact that they can as easily invest in either the worldwide risk-free rate or in the local risk-free rate of their respective countries. An algorithm will be proposed to equalize those different alternative earnings possibilities.

Finally, in section 4.4, the investors' confidence will be epitomized by the Tobin's q of each bank on the base of the accounting year 2004. The conjecture is that investors are willing to pay a premium for the assets of those banks that provide good or excellent disclosure of executive remuneration. On the other hand, investors demand discounts for the prices of the total assets if the respective banks exhibit low levels of disclosure.

Although possessing information for only one or two accounting years, the assumption is that the disclosure behaviour of a bank has been - and will be - the same for years. The execution of

disclosure is required by laws and binding listing rules (appendix 4). Those do not vary much over the years. Moreover, the principle of disclosure continuity prevails, i.e. laws prohibit constantly changing disclosure patterns to some degree. Of course, firms coordinate their disclosure activities across different media, such as the quarterly reports, investor relations disclosures, ad-hoc news etc. Lang and Lundholm (1993) find a significant rank-order correlation between annual reports and other publication disclosure ranks as well as between annual reports and investor relations disclosure. Thus their findings support the employment of the annual report as an information base for the disclosure proxy.

Moreover, it is very important for the design of this approach that the form and content of annual reports of firms are generally constant and comparable over the years (Lang and Lundholm 2000). It is unreasonable to assume erratic changes in terms of the reporting structure.

So far, the disclosure proxy is the only explanatory variable for lower cost of equity capital and/or better stock performance. That, of course, raises questions concerning the problem of endogeneity and/or omitted variables. On the one hand, it is possible that banks with higher value systematically choose better disclosure of executive remuneration rather than good disclosure causing higher valuation (reverse causation). On the other hand, both disclosure levels which are treated as an explanatory variable in the following models and pricing/valuation measures taken as endogenous variables may be jointly determined by a broader, latent variable such as broadly defined corporate governance quality or corporate culture. Consequently, in sections 4.3 and 4.4, two-step instrumental regressions will be used to subsequently test for endogeneity.

Multivariate models will incorporate six additional variables from the first part of the thesis, where the respectively constructed factors are extensively discussed. The financial system dummy *finsys* distinguishes between banks located in countries with a bank-based system and banks domiciled in countries with market systems (see appendix 2). The law dummy differentiates between countries with civil- and common-law traditions (see appendix 6). The dummy *mcapgnp* is supposed to capture the degree of national stock market development. It is the share of a country's stock market capitalization in the country's GNP, estimating the magnitude of the capital market integration of a country. The total assets variable (in USD) reflects the size of each bank as measured by the sum of the total assets of the balance sheet as of 2004 (where available - otherwise as of 2003), which can also have an influence on the endogenous variables (see appendix 2). A potential weakness might be that size determined by total assets neglects significant purchasing power disparities across countries and thus possibly underestimates bank sizes in low-income countries.

The *mcapusd* variable also represents the size of the bank; however, here size is assessed by the market capitalization of common equity as of the end of 2004. In contrast to the size of assets, enormous differences may exist with respect to the market cap. For example, the largest bank in terms of total assets is the Japanese Mizuho Financial Group; Citigroup, while smaller asset-wise, is valued at about five-times the equity capital of Mizuho.

The *anti - dir - rights* variable is supposed to reflect the magnitude and quality of the overall corporate governance of a country. This proxy stems from La Porta et al. (1998) and has been developed and tested as an index aggregating shareholders rights, which is used as a proxy for the quality of enactment of corporate governance. The proxy represents the extent of "antidirector" rights of shareholders (see appendix 1).

While the composition of the analysis has attempted to control for factors suggested by past literature, theoretical and empirical limitations obviously prevent me from determining whether all major influences have been controlled for.

Due to the multinational data panel, currency and/or country-related risks are an additional issue. Dumas and Solnik (1995) suggest that foreign-exchange risk premiums are a significant component influencing securities rates of return in the international financial markets. Several approaches to cope with the problems of projected returns and variances in different countries have been proposed (e.g. Erb et al. 1996, Harvey 1991 and 1995). I assume that the employment of the stock price in the home currency converted monthly at the respective exchange rate to the US dollars considers the currency and country effect for this purpose.

Most valuation measures used in this paper are commonly employed by investment managers and scientists to quickly and efficiently evaluate the performance of firms and their stock prices. Generally, what makes for the attractiveness of this study is the idea that an understanding of the nexus of disclosure and evaluation could possibly be achieved by solely using such widely recognized measures.

4 Data analysis: impact of transparency

4.1 Transparency investment strategy: long/short spreads

The banks will be sorted by their individual disclosure proxy and then be grouped into five parallel portfolios according to rank, each bank being equally weighted, thus resulting in 5 bank portfolios

containing 46 to 47 banks each. At the beginning of the period covered in this study, shares from each of the banks in the portfolio with the highest proxies are bought and held whereas shares of each of the 47 banks with the lowest proxies are sold short. All of the banks are publicly listed and respective puts are available in order to actually execute such a strategy. In June 2005, these positions are liquidated. The difference between this long-short strategy is called the spread. I hypothesize that the better the disclosure of executive remuneration of a bank is, the more optimistic are investors about the future development of the bank and, consequently, the more willing to allot funds to the stock of the respective bank. Thus, over the 78-month period, a significant positive spread should evolve between the long and the short strategy.

Table II.1: Long/short spread results for the five portfolios: The annual return in % denotes the average and annual stock price increase of the number of banks per portfolio. All stock prices are converted to the US dollar on a monthly base. The SD of annual returns explains the standard deviation of the annual returns of the number of banks per portfolio.

	Annual return in %	SD of annual returns	Average proxy of banks	Number of banks[2]
Portfolio 1	9.9	89.42	18.50	47
Portfolio 2	11.1	125.87	15.76	46
Portfolio 3	11.5	115.54	8.85	46
Portfolio 4	11.8	183.63	2.22	46
Portfolio 5	6.5	104.36	1.14	47

Portfolio 1 includes the banks with the most advanced disclosure practices; it yields 9.9% per year. Portfolio 5 largely consists of 19 of the 61 Japanese banks, 7 of the 8 Chinese banks, all 6 Taiwanese and all 4 Brazilian banks. This portfolio contains the banks with the lowest disclosure standards, returning only 6.5% per year. That is a 3.4% difference per year over the surveyed 78-month period. If the standard deviation is considered as an estimate for the uncertainty of returns in the respective portfolios, table 1 shows the following: Portfolio 1 offers the investor the lowest variation of returns around the average return - contrasting with portfolio 5 with a higher variation of 104.4.

However, the return advantage of Portfolio 1 over the following three Portfolios is neither obvious nor consistent with the hypothesis. The higher returns and the higher variations of portfolios 2, 3 and 4 might suggest that the banks in the portfolios have improved their transparency significantly, maybe because the respective countries improved disclosure regulations. While the excellent

[2] 1% outliers have been excluded.

disclosure of the banks in portfolio 1 might have been more constant, the dynamic of the improvement in the following three portfolios is expressed by higher volatility - with a higher return as a reward for it.

4.2 Stock performance: Sharpe ratio

4.2.1 Definition and hypotheses

A commonly employed practice to assess the nexus of return and volatility, the latter estimated by the standard deviation of returns per unit of time, is the Sharpe ratio. Over 25 years ago, Sharpe introduced a measure for the performance of mutual funds and proposed the term "reward-to-variability ratio" to describe it. The measure has gained considerable popularity and is commonly known as the "Sharpe ratio". Sharpe (1994) has designated the original version, the definition is as follows:

$$Sh_b = \frac{R_{b,t} - R_{f,t}}{SD(R_{b,t} - R_{f,t})} \tag{4.2-1}$$

Sh_b is the Sharpe ratio of bank b, $R_{b,t}$ is the return of bank b in month t from January 1999 to June 2005, $R_{f,t}$ is the benchmark, in this case the world risk-free rate in month t of the countries in the panel, and finally $SD(R_{b,t} - R_{f,t})$ is the standard deviation of the monthly difference of the returns of the bank and the benchmark.

In this version, the ratio indicates the historic average differential return per unit of historic variability of the differential return. The historic Sharpe ratio is closely related to the t-statistic for measuring the statistical significance of the mean differential return. The t-statistic will equal the Sharpe ratio times the square root of T, i.e., the number of returns used for the calculation. If historic Sharpe ratios for a set of funds are computed using the same number of observations, the Sharpe ratios will thus be proportional to the t-statistics of the means (Sharpe 1994).

The data panel consists of 223 banks in 30 countries, 22 banks have been excluded from the Sharpe ratio analysis due to insufficient time series data. Indonesia has been left out because there was only one bank left in the sample. The 22 excluded banks are dispersed evenly all over the portfolios 1 to 5 of chapter 4.1

I hypothesize that if investors are of the opinion that the nexus of task, performance and pay of executives is designed in an investor-friendly way, they might be willing to stick to their investments even in case the company gets in trouble - good disclosure practices on the company's side provided, of course. Hence, the assumption that the volatility of the stock prices of banks with good disclosure is lower than the volatility of stock prices of banks with bad disclosure suggests itself. Moreover, the better the disclosure of executive remuneration of a bank is, the more optimistic are investors about the future development of the bank and, consequently, the more willing to allot more funds to the stock of the respective bank, the latter generating stock outperformance. Lower volatility and, concurrently, outperformance in respect to the risk-free return alternative should generate higher Sharpe ratios. Thus, in a bivariate regression equation

$$Sh_i = \beta_0 + \beta_1 bproxy_i + \varepsilon_i \tag{4.2-2}$$

where Sh_i is the Sharpe ratio of bank i, $bproxy_i$ is the disclosure proxy of bank i and ε_i is the error term, β_1 is hypothesized to be positive.

Similarly, all of the 30 countries in the panel have enacted at least some kind of rules regulating the disclosure of executive remuneration. Again, it is conjectured that the more comprehensive the rules of a country are (higher $cproxy$), the lower the risk-induced volatility is, resulting in higher Sharpe ratios for the banks of the respective country. In regression terms,

$$Sh_i = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \tag{4.2-3}$$

with $\beta_1 > 0$

Apart from the member states of the European Monetary Union, the countries in the panel each have their own currency. This implies that stocks of banks located in different countries are listed in different currencies with more or less varying exchange rates. To cope with this problem, I evaluate all 223 banks in the panel in USD at an exchange rate calculated monthly.

The US, with an average bank proxy of 18.83 points, displays a maximum Sharpe ratios spread of 401 base points between the Hudson Midcity MHC and Charles Schwab Corp. and Greece, with an average bank proxy of 3.3, has a spread of only 97 base points for the Sharpe ratio. This is surprising. A possible explanation is that in countries with high bank disclosure proxies, investors divest less often and are willing to stick to their investments longer than in countries with low proxies because they are informed about and content with the nexus of task, performance and pay of the executives. However, if they detect bad performance with banks displaying good

disclosure, investors may punish these banks more severely by selling, thus generating higher volatility than in countries with bad disclosure. Investors in countries with bad disclosure, on the other hand, are perhaps not capable of detecting the magnitude of bad performance due to lower disclosure levels, or are aware of the fact that they do not know the full story and, hence, have not invested in the first place. This leads to the following conjecture:

$$SD(Sh_{i,j}) = \beta_0 + \beta_1 bproxy_j + \varepsilon_i \qquad (4.2\text{-}4)$$

with $\beta_1 > 0$

An early counterargument will be that the more banks there are in a country, the higher the standard deviation to the respective average Sharpe ratio will be. However, the regression of the number of banks per country and the standard deviation of the individual banks to the country average on USD-level clearly prove that there is no close relationship (table 2):

Table II. 2: Regression results of SD of Sharpe ratios on number of banks per country: The explanatory variable is the number of banks per country, the endogenous variable is the standard deviation of the banks' Sharpe ratio per country.

	USD SD Sharpe USD on number of banks
β_1	4.21e-4 (4.81e-4)
Intercept	0.054
R^2	0.027
T-test	-

The actual values of the Sharpe ratio of the banks per country are displayed in table 3. The banks in Saudi Arabia achieved the highest Sharpe ratio, while the banks in Portugal came in last.

Table II.3: Banks Sharpe ratios per country: The country and bank disclosure proxy are explained in part I of the thesis. The bank proxy is the average of the individual banks' disclosure proxy per country. The Sharpe USD is the average Sharpe ratio of the banks in the respective country, calculated from January 1999 to June 2005 on a monthly base. The stock prices of the banks in the countries are converted to the US dollar on a monthly base. SD Sh. USD denotes the standard deviation of the banks' Sharpe ratios per country.

COUNTRY	Number of banks	Country proxy	Bank proxy	Sharpe USD	SD Sh. USD
Australia	6	5.00	13.25	0.222	0.060
Austria	2	5.00	10.000	0.271	0.043
Belgium	3	3.00	9.500	0.044	0.051
Brazil	4	6.00	0.250	0.193	0.029
Canada	6	19.00	18.500	0.193	0.028
China	8	0.00	2.190	0.064	0.123
Denmark	2	6.00	8.500	0.305	0.050
France	2	10.00	12.670	0.106	0.029
Germany	6	5.00	9.630	0.035	0.074
Greece	5	4.00	3.300	0.024	0.041
India	3	14.00	5.900	0.224	0.031
Ireland	4	19.00	17.800	0.141	0.139
Israel	4	0.00	8.500	0.113	0.043
Italy	11	13.00	13.330	0.081	0.079
Japan	55	6.50	2.110	0.043	0.062
Malaysia	2	15.00	8.250	0.180	0.086
Netherlands	3	11.50	17.330	0.125	0.054
Portugal	3	5.00	8. 670	-0.029	0.054
Saudi Arabia	3	5.50	4.170	0.395	0.057
Singapore	3	1.00	11.670	0.133	0.021
South Africa	5	15.00	12.300	0.096	0.086
South Korea	3	0.00	0.000	0.129	0.041
Spain	5	6.50	11.200	0.094	0.037
Switzerland	5	10.00	8.300	0.158	0.131
Sweden	4	16.50	15.880	0.112	0.038
Taiwan	3	12.00	3.100	-0.003	0.027
Thailand	3	0.00	13.830	0.061	0.048
Turkey	4	0.00	0.380	0.150	0.025
UK	10	17.00	16.860	0.113	0.061
USA	46	19.00	18.830	0.085	0.078
MEAN	***223***	***8.167***	***9.189***	***0.129***	***0.058***
Standard deviation		**6.190**	**5.556**	**0.092**	**0.031**

4.2.2 One-factor regression analysis

In the first step, the regression analysis will be conducted for the equations (4.2-2) - (4.2-4), based on the cumulated panel data as shown in table 3. That is, the Sharpe ratios and the disclosure proxies of all banks in one country are accumulated per country. The value of the country in the

regression is weighted by the respective number of the banks in relation to the total number of banks in the panel.

Table II.4: Sharpe ratio one-factor country regression: The endogenous variable is the average Sharpe ratio of the banks per country, the exogenous variable is the bank disclosure proxy (one average proxy per country) in column 2, the country disclosure proxy in column 3 and the standard deviation of the banks' Sharpe ratios per country. The (a) columns present the results of regressions with normalized variables (z-transformation). ** denotes statistical significance at the 1% level.

	2: Abs. Sharpe on bank proxy	**2a: z-val Sharpe on banks proxy**	**3: Abs. Sharpe on country proxy**	**3a z-val Sharpe on country proxy**	**4: Abs. SD Sharpe on bank proxy**	**4a: z-val. SD Sharpe on bank proxy**
β_1	0.0043 (0.001)	0.852 (0.099)	0.004 (3.79e-4)	0.908 (0.079)	0.004 (0.001)	0.768 (0.121)
Intercept	0.393	0.000	0.384	0.000	0.174	0.000
R^2	0.725	0.725	0.824	0.824	0.590	0.590
T-test	**	**	**	**	**	**

Standard errors are included in parentheses. In addition to the absolute results of the regression coefficients, in the respective (a) columns I present the regression coefficient that is based on a z-transformation of the Sharpe ratios and the disclosure proxies. On an accumulated country level, there exists a significant relation between the aggregate proxies and the aggregate Sharpe ratios. One point more on an aggregate banks disclosure proxy enhances the aggregate Sharpe ratio by 0.43 points. The same effect holds true when countries' disclosure enactment increases. The impact of the magnitude of a country's issued rules regulating the disclosure of executive remuneration is even stronger than the banks' actual disclosure practices. However, higher disclosure proxies of banks per country come along with an enlarged standard deviation from the respective country's average, leading to the conjecture that lower stock performance and higher volatility of the stock prices are induced by investors, if they do not like what they see. In case of low average bank proxies per country, standard deviation of the Sharpe ratios may be lower, because investors already demand higher risk premiums and/or are less invested altogether.

These country-by-country level regressions bear two systematic problems: First, due to their cumulative nature, they neglect the variations of the bank's proxies and Sharpe ratios within one country. For this first analysis, aggregate bank proxies for each country have been employed: all the proxies for banks in each respective country have been added together. Second, the sample size of

30 is relatively small. Hence, in the second step, the regressions are computed according to an individual bank's base. This leads to the following results:

Table II.5: Sharpe ratio one-factor bank regression: The endogenous variable is the individual Sharpe ratio per bank, the exogenous variable is the bank's individual disclosure proxy in column 2 and the country disclosure proxy in column 3. The (a) columns present the results of regressions with normalized variables (z-transformation). * denotes statistical significance at the 5% level, "-" denotes no statistical significance at the conventional level.

	2: Abs. Sharpe on banks proxy	**2a: z-val Sharpe on banks proxy**	**3: Abs. Sharpe on country proxy**	**3a: z-val Sharpe on country proxy**
β_1	0.002 (0.001)	0.132 (0.067)	0.001 (0.001)	0.053 (0.067)
Intercept	0.079	-2.99e-16	0.088	-3.52e-16
R^2	0.018	0.018	0.003	0.003
T-test	*	*	-	-

On the individual bank's level, in contrast to the aggregate country level regressions, the bank-by-bank Sharpe ratio regressions almost completely lose their support of the hypothesis. Compared to the highly significant results of the Sharpe ratio one-factor country regressions in table II.3, the results in table II.5 are of minor significance. This reduction in significance is explained by the variations of the individual bank's proxies and Sharpe ratios within one country. While the bank proxy remains positive on the 5% significance level, the impact of the country proxy on the bank's Sharpe ratio is gone.

4.3 Cost of equity capital: P/E ratios

4.3.1 Definitions and hypotheses

Besides the share price itself, the P/E ratio of a company is the most-publicly used substitute to assess the attractiveness of a company's share price in relation to its current earnings. In fact, in the financial press the P/E ratio is referred to more often than the price-to-book ratio. It is probably the financial ratio most frequently talked about (Penman 2001).

I employ the definition of the data source Bloomberg (2005): The P/E ratio is the relationship between the price of a stock and its earnings per share, calculated as stock price divided by earnings per share. Earnings per share are calculated on a trailing 12-month basis by adding up the most

recent four quarters (where available). If quarterly figures are not available, the P/E will be based on annual earnings or on the earnings of the most recent two semi-annuals. Price p is determined by the respective trading volume adjusted average of daily prices of the stock of bank i $(i = 1,\ldots,238)$ from country j $(j = 1,\ldots,29)$ per year 2004.

I hypothesize that the higher the P/E ratio of a bank is, the lower the return on invested capital for the investor will be, resulting, in turn, in a lowered risk premium expected by the investors. Again, it is hypothesized that the better the disclosure of executive remuneration is, the lower the capital costs will be. Thus a high P/E ratio should coincide with a better disclosure proxy.

The P/E ratio is regarded as an indicator of risk: the riskier the present and the future of a bank's performance and earnings are, the lower they will be priced relative to current earnings. However, P/E ratios also indicate a bank's ability to increase earnings. The price in the numerator is based on expected future earnings. Consequently, a high P/E ratio means that future earnings are expected to be higher than current earnings in the denominator. In the first part of this P/E ratio analysis, it will be assumed that - since there are only more or less homogenous banks in a well-integrated environment - the potential differences in earnings growth are negligible. Further below in this chapter, a proxy for the individual earnings growth will be included in the regression analysis.

$$bpe_i = \beta_0 + \beta_1 bproxy_i + \varepsilon_i \tag{4.3-1}$$

with $\beta_1 > 0$,

where bpe_i is the P/E ratio of bank i and $bproxy_i$ is the proxy for the magnitude of the disclosure of the executive remuneration of bank i.

As for the countries in which the banks are domiciled, it is supposed that the more comprehensive the rules and regulations concerning the disclosure of executive remuneration are, the higher the average P/E ratio will be:

$$bpe_i = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \tag{4.3-2}$$

with $\beta_1 > 0$,

where $cproxy_j$ is the disclosure proxy of country j.

In addition, each of the 29 countries[3] in the panel has a leading stock market index, usually comprising major (in terms of market capitalization) publicly traded companies. There is also a P/E ratio for these stock market indices available, viz the (market-cap) value-weighted sum of all P/E ratios of the companies in the index. Thus, it is conjectured that the higher the country disclosure proxy, the higher the respective P/E ratio of the stock market index will be. This observation will test the nexus of disclosure requirements in the countries and the cost of equity capital of the total stock market index. Hence, it will not be focused on banks.

$$cpe_j = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \tag{4.3-3}$$

with $\beta_1 > 0$,

where cpe_j is the P/E ratio of the stock market index of country j.

However, the P/E ratio bears two logical deficiencies, which will be addressed in the next chapter.

4.3.2 Tackling two structural deficits of the P/E ratio

On condition that earnings of a company are negative or very low, the P/E ratio exhibits two weaknesses. In the first case, the P/E ratio becomes negative, which does not yield logical sense. In case of very low earnings, the P/E delivers very high numbers, implying that potential investors expect a negative risk premium in comparison to the risk-free rate. The South Korean Kookmin bank, for example, exhibits a P/E ratio of 3233 due to extremely low profits. It is not reasonable to assume that the shareholders of the bank are satisfied with a profit margin in relation to the share price of 0.0003%. The German banks in particular show negative P/E ratios due to the fact that, in the years 2003 and 2004, severe restructurings were conducted at the Commerzbank, HypoVereinsbank, Aareal Bank and the Bankgesellschaft Berlin.

To tackle the problem with unreasonably high P/E ratios, an "attenuator" is incorporated in the simulation. It will be conjectured that in the long-run, investors do not purchase stocks at a P/E ratio that is twice as high as the country's P/E average. In the case of much higher P/E ratios based on actual profits, the expectation of significantly higher future earnings is expressed. This threshold is supported by the market cap to book equity capital ratio of the respective banks (table 6):

[3] Israel and Saudi Arabia had to be excluded from the analysis due to insufficient data availability.

Table II.6: Market capitalization premium to the book capital - high outliers: The first two lines show the relation of the stock market capitalization to the book equity value of the banks with high outlier P/Es in percent. Column one denotes the median mean and column two the arithmetic mean of the high outliers. Line three is the relation of the high outliers mean to the full sample mean.

	Median	Arithmetic average
Full sample	101%	135%
High outliers	146%	297%
Premium ratio of outlier to sample	145%	243%

To assess the negative P/E outliers properly, it is assumed that no investor will purchase stocks of banks with a P/E ratio of less than one fourth of the country-specific P/E ratios. Banks with a negative P/E ratio and a positive share price provide investors with the future outlook of a decent profit return on capital; otherwise their market capitalization could not be explained. This threshold is supported by the market cap to book equity capital ratio of the respective banks (table 7):

Table II.7: Market capitalization premium to the book capital - negative outliers: The first two lines show the relation of the stock market capitalization to the book equity value of the banks with negative outlier P/Es in percent. Column one denotes the median mean and column two the arithmetic mean of the negative outliers. Line three is the relation of the negative outliers mean to the full sample mean.

	Median	Arithmetic average
Full sample	101%	135%
Negative outliers	22%	35%
Premium ratio of outlier to sample	22%	28%

The deficiency adjustment leads to the panel data given in appendix 8.

Henceforth, the hypotheses (4.3-1) and (4.3-2) are as follows:

$$badjpe_i = \beta_0 + \beta_1 bproxy_i + \varepsilon_i, \tag{4.3-4}$$

$$badjpe_i = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \tag{4.3-5}$$

with $\beta_1 > 0$, in both cases,

whereas $badjpe_i$ is the deficiency-adjusted P/E ratio of bank i.

4.3.3 Incorporating different earnings possibilities for each country

The major stock indices of the countries in the panel exhibit different P/E ratios. These different P/E ratios are partly based on the different risk-free interest rates in the respective countries that offer an investment alternative to stocks, different expected earnings growth rates, and, of course, different risk premiums that the investor demands from the companies in these countries due to diverse country risk gradings. Generally, different average P/E ratios exist among various industries. Since the panel data contains banks only, there should be no further significant bias.

However, the different alternative earnings possibilities will have to be considered. As the P/E ratio depends on the cost of capital, and the cost of capital in turn depends in part on overall interest rates, P/E ratios are sensitive to interest rates. So when interest rates of government obligations were high in the late 1970s and early 1980s, P/E ratios were low; when interest rates were relatively low in the 1990s, P/E ratios were relatively high (Penman 2001).

The effect of different local interest rates will be incorporated by a separate and second adjustment. The variously expected profit growth rates will be neglected because it is assumed that the information about the profit that the banks plan in the future - and, of course, the investors' willingness to trust this plan - is already incorporated in the current stock pricing.

The impact of the different, local risk-free interest rate on the P/E ratio will be estimated as follows: in country j, one either invests in long-term government bonds - in this case with a 10-year maturity and an interest return (coupon yield and bond price changes) of $r_{bd,j}$ - or, alternatively, in the stocks of bank i in country j with an expected return of $r_{b,i,j} = 1/(badjpe_i)$.

The short-term interest levels of the local money markets will not be included because stock investments, by nature, are long-term investments, thus the long-term, 10-year government bond returns will be utilized to estimate the impact of the interest rates. Moreover, money-market returns are not so much as long-term bonds moulded by the free offer and demand of the financial markets but rather tend to be tactical instruments by the respective central banks and governments used to react to the national economic situation.

One objection is that in the case of the government bond, the investor receives the full interest payment whereas in the case of the stocks P/E ratio, it depends on the dividend policy of the bank to determine what part of profits will be paid out as dividends and what part are retained earnings. However, the accumulated profits strengthen the balance sheet of the bank and, hence, an increasing stock price will eventually compensate for the profit retention.

Tax-wise there exists a second objection. Some countries apply different tax rates on interest income, dividend income and capital gains. For the purpose of this calculation it is assumed that the stock price, as it is determined by the demand of an investor, comprises the tax issues.

The average return of the 10-year government bonds, weighted according to the respective number of banks domiciled in the 31 countries in the sample, is 4.53%, the average P/E ratio of the local stock market indices, accordingly weighted, is 23.09, and the average of the deficiency-adjusted P/E ratio of the banks is 10.15.

With regard to adjusting for the different yield possibilities, the following transformation will be applied:

$$ir\text{-}badjpe_i = \frac{r_{gbd,j}}{avg(r_{gbd})} badjpe_i, \tag{4.3-6}$$

where $ir\text{-}badjpe_i$ is the interest rate and deficiency-adjusted P/E ratio of bank i, $r_{gbd,j}$ is the 10-year government bond return of the respective country j of bank i, and $avg(r_{gbd})$ is the (by the number of the banks per country weighted average) 10-year government bond return of all 29 countries.

In the same way, the P/E ratios of the stock market indices of the countries will be transformed:

$$ir\text{-}cadjpe_j = \frac{r_{gbd,j}}{avg(r_{gdb})} cadjpe_i, \tag{4.3-7}$$

where $ir\text{-}cadjpe_j$ is the interest-rate and deficiency-adjusted P/E ratio of country j.

Thus, the hypotheses (4.3-4), (4.3-5) and (4.3-3) formulated earlier will be tested by the following regressions:

$$ir\text{-}badjpe_i = \beta_0 + \beta_1 bproxy_i + \varepsilon_i \tag{4.3-8}$$

$$ir\text{-}badjpe_i = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \tag{4.3-9}$$

$$ir\text{-}cadjpe_i = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \tag{4.3-10}$$

with $\beta_1 > 0$, in all three cases.

4.3.4 One-factor regression analysis

In the first step, the regression analysis will be conducted for the equations (4.3-1) - (4.3-3), based on the panel data as shown in appendix 8. That is, the deficiency-adjusted P/E rations and the disclosure proxies of all banks in one country are accumulated per country. The cumulative values of banks' disclosure proxies and P/E ratios per country reflect the overall importance of each country's banking sector in the panel. Thus, countries with a larger number of listed banks have greater weights.

The calculation reveals the following results, neglecting the alternative yield possibilities of the different risk-free rates of the 10-year government bonds in the respective countries:

Table II.8: Deficiency-adjusted P/E one-factor regression results (country-level): The explanatory variables are the average bank disclosure proxy per country in line one and the country disclosure proxy in the second row. The dependent variable is the average and deficiency-adjusted P/E of the banks per country in the first columns and the country P/E in the last column. "**" denotes statistical significance at the 1% level.

INDEPENDENT VARIABLES	**Regressions with banks' P/E as dependent variable (cumulated)**		**Regression with country P/E as dependent variable**
bproxy (cumulated)	0.561** (0.163)		
cproxy		0.712** (0.122)	1.727** (0.424)
R^2	0.289	0.539	0.364

All regressions have been estimated using the ordinary least squares (OLS) method and include an intercept. Statistical significance on the 1% and 5% level is indicated with ** and *, respectively. Standard errors of coefficient estimates are included in parentheses.

After incorporating the different yield possibilities in the respective countries into the P/E ratios of the countries and the banks as outlined in 4.2, the results are as follows:

Table II.9: Interest- and deficiency-adjusted P/E one-factor regression results (country-level): The explanatory variables are the average bank disclosure proxy per country in line one and the country disclosure proxy in the second line. The dependent variable is the average, interest- and deficiency-adjusted P/E of the banks per country in the first columns and the country P/E in the last column. "**" denotes statistical significance at the 1% level.

INDEPENDENT VARIABLES	**Regressions with banks' interest-adjusted P/E as dependent variable (cumulated)**		**Regression with country interest-adjusted P/E**
bproxy (cumulated)	0.532** (0.049)		
cproxy		0.523** (0.034)	1.115** (0.087)
R^2	0.800	0.893	0.851

Taking these results at face value, a broadening of aggregate disclosure of executive remuneration by one point increases the aggregate P/E ratio by 0.53 points and thus reduces the risk premium that the investors demand by 0.51%. Thus, investors do not demand an average return on investment of 10.23% p.a. as they do with a P/E ratio of 9.75, but they ask for 9.72%, leading to a new P/E ratio of 10.28. For the governments of the respective countries, the impact of enhanced rules and regulations leads to even more significantly reduced risk premium demands of investors. This conjecture is valid for all companies that are included in the respective stock market indices; however the impact of enhanced rules of disclosure on banks only is stronger.

However, these country-by-country level regressions bear two systematic problems: First, due to their cumulative nature, they neglect the variations of the banks proxies and P/E ratios within one country. For this first analysis, aggregate bank proxies for each country have been employed: he arithmetic mean of the proxy for each country has been multiplied by the number of banks located in that country. Henceforth, the weighted measures for a small panel whose banks exhibit large disclosure proxies and a large panel whose banks show small disclosure proxies may turn out to be very similar. The same goes for cumulative P/E ratios. Second, the sample size of 31 is relatively small.

Hence, in the second step, the regressions are computed on an individual bank's base. This leads to the following results, with heteroscedasticity-robust standard errors in parentheses:

Table II.10: Regressions of interest- and deficiency-adjusted P/E on individual banks and country disclosure proxies: The explanatory variables are the individual banks disclosure proxy in line one and the country disclosure proxy in the second line. The dependent variable is the individual, interest- and deficiency-adjusted P/E of the banks in the first columns and the country P/E in the last column. "**" denotes statistical significance at the 1% level.

INDEPENDENT VARIABLES	Regressions with banks' interest-adjusted P/E		Regression with country interest-adjusted P/E
bproxy	0.248** (0.034)		
cproxy		0.174** (0.041)	0.295** (0.050)
R^2	0.189	0.073	0.132

The results are statistically significant and support hypotheses (4.3-8) through (4.3-10). In contrast to the aggregate bank-per-country level, at an individual bank's level, the hypotheses (4.3-1) to (4.3-3) can only be supported by the data, if the P/E ratios of the banks are adjusted by the varying alternative earnings possibilities in the respective countries where the banks are domiciled. While on the aggregate bank-per-country level the impact of the countries' magnitude of rules and regulations concerning the disclosure of executive remuneration on the banks' aggregate P/E ratios is higher than the banks' aggregate disclosure habits, on a bank-per-bank level the effect of the individual bank's disclosure efforts exceeds the country proxy's impact.

Generally, high one-factor regressions bear the danger of omitted variables and endogeneity. In the next chapter, besides disclosure quality the regressions will include further explanatory variables such as the size of the banks proxied by the natural logarithm of total assets as well as market capitalization, historical growth of profits, the level of the capital market integration of a country, and the strength of antidirector rights.

4.3.5 Multi-factor regression analysis

In order to address the issue of omitted variables in one-factor regression in the previous chapter, the following model is estimated:

$$ir\text{-}badjpe_i = \beta_0 + \beta_1 bproxy_i + \beta_2 grprofit_i + \beta_3 lnassets_i + \beta_4 mcapusd_i + \beta_5 mcapgnp_j + \beta_6 anti\text{-}dir\text{-}rights_j + \varepsilon_i, \quad (4.3\text{-}11)$$

where $ir\text{-}badjpe_i$ is the P/E ratio of each bank in the sample adjusted in the manner described previously, $bproxy_i$ is the disclosure proxy of the respective bank i, $mcapgnp_j$ is the share of a country's stock market capitalization in the GNP of country j, estimating the magnitude of the capital market integration of a country, and supposed to capture for the degree of national stock market development. To control for different growth potentials, $grprofit_i$ proxies for growth rate of profits are measured as the relative difference between bank's i pretax profits from 2003 to 2004. The $lnassets_i$ variable reflects the size of each bank measured by the logarithm of total assets of the balance sheet as of 2004, which can also have an influence on the P/E ratio.

The $mcapusd_i$ variable also represents the size of bank i; however, in this case size is assessed by the market capitalization of common equity as of the end of 2004. The $anti\text{-}dir\text{-}rights_j$ variable is supposed to epitomize an estimator for the magnitude and quality of the overall corporate governance in country j. These proxies stem from La Porta et al. (1998) and have been developed and tested as an index aggregating shareholders rights, which is used as a proxy for the quality of enactment of corporate governance. The proxy represents the extent of "antidirector" rights of shareholders. On a scale from 0 to 5, the higher the factor is, the better the antidirector rights of shareholders are.

The model is estimated with Generalized Least Squares, where account has been taken of possible error interdependencies within countries. The results are presented in table 11. Robust standard errors of the estimated coefficients are included in parentheses.

Table II.11: Regressions of interest- and deficiency-adjusted P/E on individual banks disclosure proxies and the control variables: The explanatory variables are the individual banks disclosure proxy and the 5 control variables profit growth (*grprofit*), market capitalization of the individual banks (*mcapusd*), the size of banks in terms of the logarithm of total assets (*lnassets*), the capital market integration of the countries (*mcapgnp*) and the strengths of the antidirector rights of the countries (*antidir*). The dependent variable is the individual, interest- and deficiency-adjusted P/E of the banks. The first column presents the nonstandardized regression coefficients and the second column shows the standardized (z-transformation) coefficients. "**" and "*" denote statistical significance at the 1% and 5% level. Robust standard errors of the estimated coefficients are included in parentheses.

	Nonstandardized coefficients	**Standardized coefficients**
bproxy	0.288** (0.096)	0.532**
grprofit	0.344 (0.257)	0.107
mcapusd	2.40e-06** (4.00e-07)	0.211*
lnassets	-1.023** (0.246)	-0.321**
mcapgnp	-0.556 (1.015)	-0.071
antidir	-0.248 (0.394)	-0.094
Intercept	Yes	
R^2	0.25	

In the model specification, the disclosure proxy has the highest positive impact on the P/E ratios of the banks in comparison with other regressors (standardized coefficients of 0.532). All else being equal, a one-point improvement of disclosure can be expected to account for an about 0.3-point increase in the value of the bank as expressed by P/E ratios weighted according to country-specific differences in risk-free rates. The coefficient of *bproxy* is statistically significant, as well as coefficients on market capitalization of the bank *mcapusd* and the log of banks' book value of assets. The magnitude of the historic profit-growth coefficient is economically significant (a one-percent change in growth is associated with a 0.3% change in risk- and deficiency-adjusted P/Es), but has no statistical significance in these model specifications.

Admittedly, the *grprofit* variable may be an imprecise control for growth since, due to data availability constraints, it considers changes in profits over two years only. Surprisingly, the proxy for the overall quality of the corporate governance of a country (*antidir*) contradicts intuition and common sense - better antidirector rights come along with lower P/E ratios. However, the data of

La Porta et al. stem from 1998 and thus the quality of this correlation is to be questioned. Nonetheless, it does tend to support the theory that the quality and magnitude of the disclosure of executive remuneration on the one hand, and general corporate governance issues on the other hand, are not regarded equally by the equity markets. Another significantly negative relationship is the size as estimated by the total assets and the willingness of investors to reduce risk premiums. No significant relation exists between the capital market integration and the level of P/E ratios.

4.3.6 Endogeneity concerns

Another problem that may weaken the regression results is possible endogeneity of the bank disclosure proxy. This would be the case if bank-specific disclosure practices are influenced by or are part of broader corporate governance practices going beyond the control for antidirector rights in model specification above, which directly impact banks' P/E ratios. It is also possible that banks with high P/E ratios tend to endogenously practice good disclosure; that is, market valuation of a bank expressed by P/E ratios would have an influence on disclosure standards and not vice versa.

To deal with endogeneity, one needs at least one instrumental variable for the bank disclosure proxy that is highly correlated with the proxy but is not correlated with the error term. The financial system dummy (equals to one for banks located in market-based system countries and zero for bank-based systems) and the bank disclosure proxy have a relatively high correlation coefficient of 0.7. It is also plausible that the market system dummy will be exogenous if used in models as an instrument for the bank proxy since individual banks have no decisive influence on their legal and economic environment. Another suitable instrument is the law dummy, which differentiates between civil- and common-law countries. La Porta et al. (1998-2002) show that the law origin of countries is relevant for corporate governance regulations. Using both dummies as instruments for *bproxy* in 2SLS regressions produces a positive and highly significant coefficient on disclosure of 0.448 in the full model specification (regression in table 12). 2SLS coefficient estimates on *bproxy* remain highly significant and are larger than those in OLS and GLS regressions. Standard errors in parentheses in the table below are robust and account for cluster (country) interdependencies. Thus the results of 2SLS regressions go in line with the initial hypothesis. A Hausman test does not reject the null hypothesis that *bproxy* is exogenous, so that endogeneity does not seem to be an issue here.

Table II.12: Regressions of interest- and deficiency-adjusted P/E on instrumented individual banks disclosure proxies and the control variables: The explanatory variables are the instrumented (by law system and financial system) individual banks disclosure proxy and the 5 control variables profit growth (*grprofit*), market capitalization of the individual banks (*mcapusd*), the size of banks in terms of the logarithm of total assets (*lnassets*), the capital market integration of the countries (*mcapgnp*) and the strengths of the antidirector rights of the countries (*antidir*). The dependent variable is the individual, interest- and deficiency-adjusted P/E of the banks. "**" and "*" denote statistical significance at the 1% and 5% level. Robust standard errors of the estimated coefficients are included in parentheses.

bproxy instrumented by financial system and law dummies	0.448** (0.101)
grprofit	0.290 (0.270)
mcapusd	2.56e-06** (3.11e-07)
lnassets	-1.316** (0.331)
mcapgnp	-0.906 (1.140)
antidir	-0.537 (0.455)
Intercept	Yes
R^2	0.20

4.3.7 Criticism of the interpretation of adjusted data

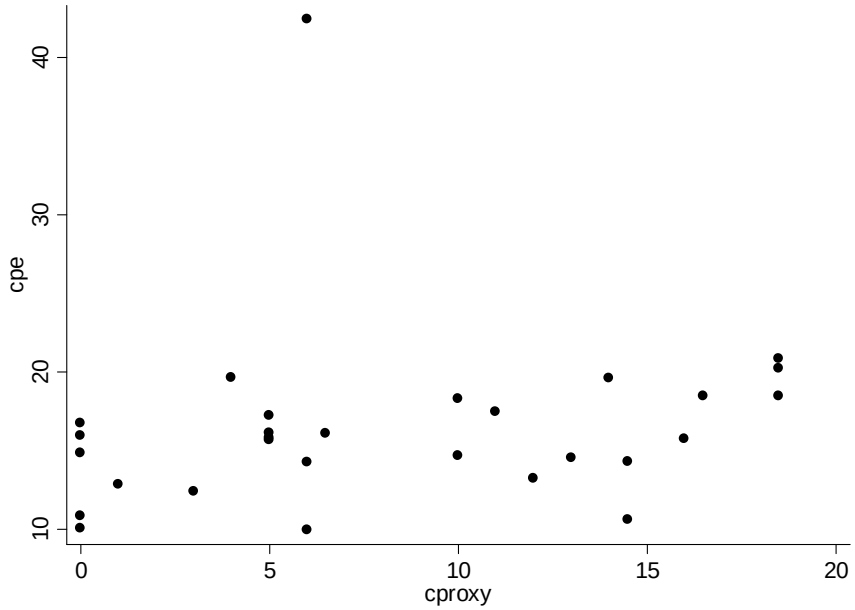
The results of bank-by-bank regressions support the hypothesis well. The interpretation of the coefficients of *bproxy*, however, is not straightforward, since the dependent variable has been transformed. Transformation always means a change and sometimes creates a difficulty with regard to the interpretation of the estimated coefficients. On the one hand, the adjustments that have been made of P/Es for a risk-free rate are intuitive. On the other hand, when interpreting the regressions with the transformed P/Es, the estimated coefficients are marginal changes, all else being equal, of the transformed P/Es, not of the original P/Es, with resulting difficulties in making policy-relevant conclusions on the basis of these research results. After identifying the strongly positive relationship between disclosure and transformed P/Es, one cannot tell a bank's executive that a one-point improvement in disclosure can be expected to bring him a 0.24 point improvement in his bank's P/E, at least not the P/E that he computes by dividing share's price by earnings per share, but the only in the transformed P/E, which is strictly speaking a different variable, even if it is more easily justified economically as a more accurate measure of value.

Henceforth, although the logical flow of the arguments about transforming the different risk-free earning alternatives is conclusive, the question remains: What would the regression results look like if one does not follow that transformation? This will be discussed in the next section.

4.3.8 Alternative regressions with only deficiency-adjusted P/E

On the country level, there is a statistically significant relationship between disclosure standards established by national legislation as measured by country disclosure proxy $cproxy_i$, and only deficiency-adjusted P/E ratios of selected capital market indexes. The following OLS regression results were obtained for a sample of 28 countries. Israel and Saudi Arabia have been excluded because data on the country P/E ratios were not available. Japan's stock index P/E ratio appears to be an extreme outlier (see diagram 1), so it has been excluded from the regression as well. The P/E ratios of the resulting sample are a good approximation of the normal distribution, which is confirmed by the Shapiro-Wilk test for normality.

Diagram II.1: Only deficiency-adjusted average country P/E to country proxy



In a further regression, the countries capital market integration, proxied by the stock market capitalization of each country as a share of the GDP and the antidirector rights dummy are added as explanatory variables to control for differences in capital market integration and the strength of shareholder rights as an additional expression of external corporate governance. As can be seen in table 13, the coefficients of both control variables, however, are statistically insignificant.

Table II.13: Regressions with the only deficiency-adjusted country P/E ratios of national stock indexes on country disclosure proxies and the two country control variables: The explanatory variables are the country disclosure proxies and the two control variables capital market integration of the countries (*mcapgnp*) and the strengths of the antidirector rights of the countries (*antidir*). The dependent variable is the only deficiency-adjusted country P/E of the national stock markets."*" denotes statistical significance at the 5% level. Robust standard errors of the estimated coefficients are included in parentheses.

cproxy	0.268* (0.098)
mcapgnp	-0.833 (1.118)
antidir	-0.269 (0.493)
R^2	0.148

The model predicts that a one-point improvement in a country's disclosure standards is associated with a 0.268-point increase in P/E ratios of the respective national stock index.

Conducting regression analysis with only deficiency-adjusted P/E ratios of the individual banks poses a number of challenges. As mentioned earlier, within each country, many important factors may prevail which ultimately affect banks' P/E ratios, such as legislative norms, economic situation, disturbances in the national capital markets, taxation differences, culture-specific investor behavior, etc. Adequate modeling of all relevant factors is difficult, considering the immense scope of country-specific knowledge and data one would need for a comprehensive model. Avoiding modeling country specificities altogether, however, may lead to inconsistent or biased estimations.

4.3.9 Bank's P/E positions in relation to the average country P/E and the bank proxy

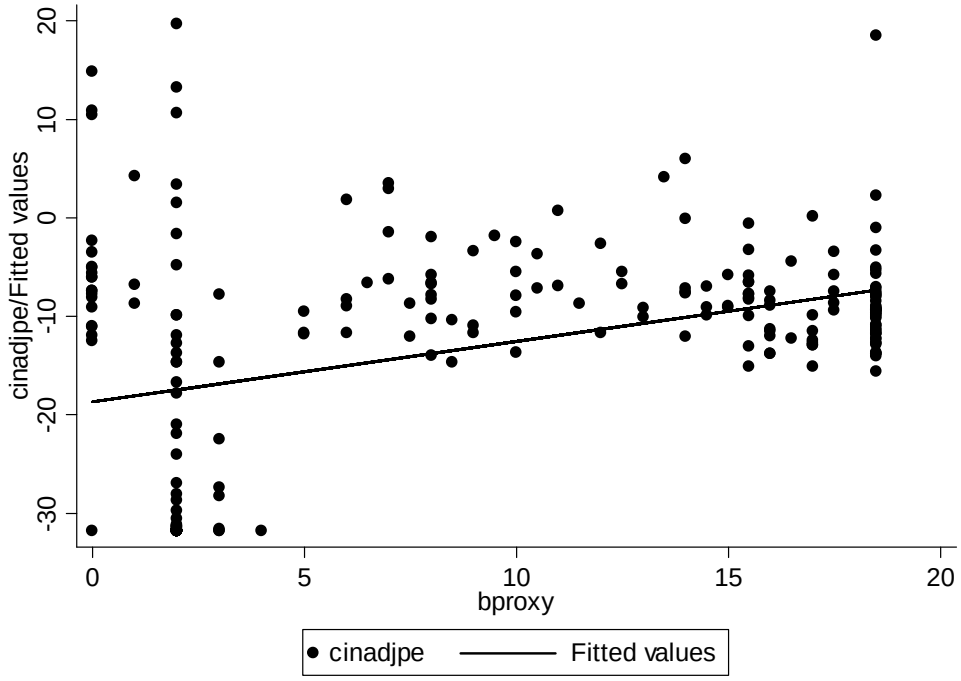
Including national capital markets' relative sizes is but a minimal control for relevant differences between countries. Now, to put each individual bank's P/E ratio in the national economic context, a new variable, *cinadjpe*, is created. This variable equals the difference between an individual bank's P/E ratio and the P/E ratio of its home country's national stock market index. Israel and Saudi Arabia have been excluded again because data on the country P/E ratios were not available. The bank and country P/Es are only deficiency-adjusted and not transformed with regard to the different earning alternatives. The GLS regression results are shown in table 14. Robust standard errors are in parentheses:

Table II.14: Regression of the difference between individual bank P/E ratios and country stock market index P/E ratios on individual bank proxy and control variables: The explanatory variables are the individual bank disclosure proxies and the two control variables capital market integration of the countries (*mcapgnp*) and the size of the banks (*lnassets*). The dependent variable is the only deficiency-adjusted difference between individual bank P/E ratios and country stock market index P/E ratios. "**" and "*" denote statistical significance at the 1% and 5% level. Robust standard errors of the estimated coefficients are included in parentheses.

bproxy	0.820** (0.113)
mcapgnp	-6.209** (1.407)
lnassets	-0.593 (0.467)
R^2	0.22

The regression coefficient of *bproxy* is positive and much larger in magnitude. All else being equal, a one-point increase in *bproxy* is predicted to account for a 0.82 point increase in the difference between a bank's P/E ratio and the P/E ratio of the national stock index, which is attributable to a rise in the bank's P/E. The following graph plots the predicted regression line in the two-dimensional space of bank's disclosure proxy and P/E difference measure:

Diagram II.2: Bivariate scatterplot of individual bank's disclosure proxy vs. difference between bank and country P/E ratios



It is obvious that the results are likely to be driven by the concentration of observations in the bottom left corner of the plot. Almost all of those observations are of Japanese banks. In the country level regression above, Japan has been excluded since the P/E ratio of its stock index was an obvious outlier.

With an average around 42, the P/E ratios of the Japanese banks are generally rather high by comparison with banks in other countries. That is an indication of the special economic situation in Japan, particularly in light of its recent history of stagnation and crisis in the banking sector. All of this has resulted in an extremely loose monetary policy with negative real interest rates and accordingly poor-to-nonexistent alternative opportunities for capital investors. One way to deal with this special situation was the 10-year government bond interest transformation previously. Here, a dummy variable for Japan is created, which equals one for all observations on Japanese banks and is zero otherwise. Another argument for a control variable for Japan derives also from the high number of Japanese banks in the sample, i.e. 61 out of 238, whereas most other countries are represented by less than eight banks. Generalized least squares pooled regressions are computed with natural logarithms of banks' deficiency-adjusted P/E ratios as dependent variables to reduce the variance. The results are exhibited in table 15:

Table II.15: Regression banks P/E on banks proxy with Japan dummy: The explanatory variables are the individual bank disclosure proxies and the dummy variable for Japan. The dependent variables are the only deficiency-adjusted, individual, logarithmized bank P/E ratios of the national stock markets. "**" denotes statistical significance at the 1% level. Robust standard errors of the estimated coefficients are included in parentheses.

bproxy	0.012 (0.007) significant at 10% level
Japan (dummy)	0.546** (0.104)
lnassets	-0.066** (0.022)
Intercept	yes
R^2	0.197

The coefficient on *bproxy* in the second regression is significant on the 10% level. It is positive, which is in line with the hypothesis of higher P/E ratios for better disclosure practices on the level of individual banks. Its economic magnitude, however, remains relatively small. Since the dependent variable is in the logarithmic form, the coefficient on *bproxy* can be interpreted as a percentage change in P/E ratios following a marginal change in disclosure proxy. All other things being equal, a one-point increase in *bproxy* (range 0 to 18.5) can be associated with an approximately one percent rise in a bank's deficiency-adjusted P/E ratio.

4.4 Investor's confidence: Tobin's q

4.4.1 Definition and calculation of Tobin's q

Tobin's q has become an increasingly attractive theoretical firm performance measure because it provides an estimate of the value of a firm's intangible assets, such as monopoly power, goodwill, high quality managers and growth opportunities, where the value is assumed to reflect the results of performance (Perfect and Wiles 1994, Tobin 1978). Originally, Tobin's q was defined as the ratio of the market value of the firm to the replacement cost of its assets and was first introduced into macroanalysis by Tobin (1969) in order to explain the causal relationship between q and investment. Tobin argues that if at the margin q exceeds unity, then firms have an incentive to invest since the cost is less than the new capital investment. Since then Tobin's q has been widely used in the takeover literature (Badrinath and Kini 1994).

In this case, Tobin's q is the quotient of the market value of assets divided by the book value of assets, where the market value of assets is computed as book value of assets plus the market value of common stock less the sum of the book value of common stock. This computation follows the analysis of Kaplan and Zingales (1997), using the market capitalization instead of replacement cost of assets. The results in Perfect and Wiles (1994) indicate that the improvements obtained from the more involved computations of q are fairly limited, particularly when regressions are estimated with firm-fixed effects. For the purpose of this estimation, the actual market value of equity at the end of fiscal year is utilized.

$$Tobins'q = \frac{book\ value\ of\ assets + market\ cap - book\ value\ of\ common\ stocks}{book\ value\ of\ assets} \qquad (4.4\text{-}1)$$

Studies concerning Tobin's q and corporate governance issues have been conducted before by La Porta et al. (2002). They analyse the twenty largest industrial companies in 27 wealthy countries with respect to the relation of shareholder protection and the value of the companies' stock. They conjecture that bad shareholder protection leads to lower values of equity measured by Tobin's q. Banks are excluded from the study, due to their heterogeneous nature compared to industrial firms. Gompers et al. (2003) use the incidence of 24 governance rules and construct a Governance Index to proxy for the level of shareholder rights at about 1.500 large US-American firms during 1990s. They find that firms with stronger shareholders rights had higher firm values, estimated by Tobin's q.

In the previous chapter, the conjecture of a possible relationship between P/E ratios and the disclosure proxies of banks and countries was analysed. A close relation might exist between P/E ratios and the respective bank's Tobin's q. Thus, the question arises whether does the testing of the Tobin's q variable provide any new insight or is it redundant? Tobin's q employs total assets, book value of equity and the market capitalization, whereas the P/E ratio uses different variables. The connection is the stock price and the market capitalization, whereas the latter is the price-per-stock times the number of issued shares.

I estimate the regression analysis of the Tobin's q on the banks' P/E ratios:

$$tobinq_i = \beta_0 + \beta_1 badjpe_i + \varepsilon_i \qquad (4.4\text{-}2)$$

Table 16 exhibits the results of the regression:

Table II.16: Regression result of bank Tobin's qs on bank P/E ratios

	Absolute *R*
β_1	0.003** (0,001)
Intercept	1.003
R^2	0.076

Standard errors are included in parentheses. The absolutely low value of the regression coefficient β_1 and a very low R^2 encourage the additional Tobin's q analysis.

Moreover, while Tobin's q values exist for Israeli and Saudi Arabian banks, those banks could not be included in the country P/E ratio analysis. Badrinath and Kini (1994) also find in their analysis that while the magnitude of the P/E ratio diminishes significantly when controlling for Tobin's q, the interactions between q and P/E are not systematic or consistent.

I hypothesize that investors who purchase stocks of banks that display good disclosure of executive remuneration are willing to pay a premium for the assets of the banks. On the other hand, investors demand discounts for the prices of the total assets if the respective banks exhibit poor quality or low levels of executive remuneration disclosure.

$$tobinq_i = \beta_0 + \beta_1 bproxy_i + \varepsilon_i \qquad (4.4\text{-}3)$$

with $\beta_1 > 0$,

where $tobinq_i$ is the value of the Tobin's q of bank i and $bproxy_i$ is the disclosure proxy of the executive remuneration of bank i and ε_i is the regression residual.

With regard to the country level, it is conjectured that the more comprehensive a country's rules regulating the disclosure of executive remuneration are, the higher the premium investors are willing to pay, and thus, the higher the Tobin's q.

$$tobinq_i = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \qquad (4.4\text{-}4)$$

with $\beta_1 > 0$,

where $cproxy_j$ denotes the disclosure proxy of country j.

In the USA, e.g., Merrill Lynch Bank is priced with an agio of 66% on the book value of total assets, whereas Colonial Bank Group is valued with a discount of 7%, or in other words, a spread

of 73 percentage points. In the UK, HSBC is traded with a premium of over 8%, Abbey National is discounted by 3%, thus a difference of about 11%. In Malaysia, where stockholders purchase equity shares with 24% above book value, the second bank achieves only 1% when selling stocks. The stocks of the 61 banks in Japan are traded at prices in an interval between 3% discount and only 4.5% agio. In China, the maximum valuation spread is only 9%. Hence, apparently countries with higher disclosure proxies display higher variations of the bank Tobin's qs. This is surprising on the face of it. Of course there is an inherent simplification, because in this study all banks are considered to be alike. Merrill Lynch Bank is a strong player in investment banking, thus generating profits and value without a great amount of assets, whereas the Colonial Bank Group focuses mainly on the traditional banking business, and hence is assets-burdened in the balance sheet.

Similar to the spreads of the Sharpe ratios (chapter 4.2.2), a possible explanation is that in countries with high bank or country disclosure proxies, investors are willing to pay higher premiums for assets than in countries with low proxies because they are informed about and content with the nexus of task, performance and pay of the executives. However, if they detect bad performance with banks displaying good disclosure, investors may punish these banks more severely by discounting share prices. Investors in countries with bad disclosure, on the other hand, are perhaps less capable of detecting the magnitude of bad performance due to lower disclosure levels, or are aware of the fact that they do not know the full story and, hence, have demanded discounts in the first place. Consequently the value variation interval is smaller. This leads to three further hypotheses:

$$SD_j\left(tobinq_{i,j}\right) = \beta_0 + \beta_1 cproxy_j + \varepsilon_i \qquad (4.4\text{-}5)$$

with $\beta_1 > 0$,

$$SD_j\left((tobinq_{i,j}\right) = \beta_0 + \beta_1 bproxy_j + \varepsilon_i \qquad (4.4\text{-}6)$$

with $\beta_1 > 0$,

$$SD_j\left(tobinq_{i,j}\right) = \beta_0 + \beta_1 tobinq_{i,j} + \varepsilon_i \qquad (4.4\text{-}7)$$

with $\beta_1 > 0$,

where SD_j $(tobinq_{i,j})$ is the standard deviation of the average Tobin's q value of the country j, computed for banks domiciled there.

The average Tobin's qs of the banks per country are as follows:

Table II.17: Tobin's qs of banks per country

COUNTRY	*cproxy*	*bproxy*	Tobin's average	Tobin's standard deviation
Malaysia	15.00	8.25	1.126	0.156
US	19.00	18.83	1.114	0.112
Australia	5.00	13.25	1.103	0.035
Indonesia	0.00	1.50	1.092	0.108
Turkey	0.00	0.38	1.068	0.189
Portugal	5.00	8.67	1.048	0.042
Thailand	0.00	13.83	1.042	0.014
Spain	6.50	11.20	1.039	0.029
UK	17.00	16.86	1.035	0.032
Canada	19.00	18.50	1.035	0.018
Ireland	19.00	17.80	1.033	0.038
South Africa	15.00	12.30	1.031	0.047
Singapore	1.00	11.67	1.026	0.092
average	8.14	9.94	1.006	0.059
China	0.00	2.19	1.022	0.043
India	14.00	5.90	1.021	0.031
Sweden	16.50	15.88	1.019	0.006
Italy	13.00	13.33	1.015	0.029
Greece	4.00	3.30	1.014	0.016
Belgium	3.00	9.50	1.011	0.003
Switzerland	10.00	8.30	1.006	0.033
Taiwan	12.00	3.10	1.006	0.037
Netherlands	11.50	17.33	1.006	0.029
France	10.00	12.67	1.002	0.022
Denmark	6.00	8.50	1.001	0.018
Japan	6.50	2.11	0.999	0.066
South Korea	0.00	0.00	0.997	0.019
Germany	5.00	9.63	0.995	0.011
Austria	5.00	10.00	0.991	0.001
Brazil	6.50	0.25	0.983	0.042
Israel	0.00	8.50	0.948	0.006
Saudi Arabia	5.50	4.17	0.890	0.005

The banks domiciled in Malaysia, USA and Australia reveal the highest Tobin's q valuation, while Saudi Arabia, Israel and Brazil display the lowest. The assets of the banks in seven countries are on average valued lower than the book value of assets. In the case of Japanese and German banks, this might be explained by the ongoing restructurings during the evaluation period 2003 and 2004. In case of the countries Israel, Saudi Arabia and South Korea, political instabilities might also suggest a way to interpret that fact.

Generally, the interval of Tobin's qs of the banks is low compared to an industrial portfolio. This effect should be explained by the relatively low ratio of book equity in relation to the total assets as

compared to industrial enterprises. An additonal reason could be the fact that in the balance sheets of banks many assets are activated with their market and/or redemption value, whereas in the balance sheets of industrial companies a great number of the assets are intangible or valued at (lower) book prices.

4.4.2 One-factor regression analysis

In the first step, the regression analysis will be conducted for the equations (4.4-3) - (4.4-7), outlined previously, based on the cumulated panel data as shown in table 17. That is, the Tobin's qs and the disclosure proxies of all banks in one country are accumulated per country. The value of the country in the regression is weighted by the respective number of the banks in relation to the total number of banks in the panel. The results are displayed in table 18.

Table II.18: One-factor OLS regression results of Tobin's qs on average bank and country proxy at country level: The dependent variable is the average Tobin's q of the banks per country. The exogenous variable is the bank disclosure proxy (*bproxy*, one average proxy per country) and the country disclosure proxy (*cproxy*). The (a) columns present the results of regressions with Tobin's qs, the (b) columns with the standard deviation of the individual bank Tobin's q per country. "**" denotes statistical significance at the 1% level. Standard errors are included in parentheses.

INDEPENDENT VARIABLES	**(a) Regressions with Tobin's q**		**(b) Regressions with the standard deviation of Tobin's q**		
bproxy	0.061** (0.011)		0.708** (0.131)		
cproxy		0.069** (0.008)		0.924** (0.071)	
Tobin's q					0.959** (0.131)
R^2	0.501	0.746	0.501	0.854	0.919

There appears to be a significant willingness of investors to pay an aggregate price premium to the book values of the accord with a high level of aggregate disclosure of executive remuneration. Moreover, investors pay aggregate premium prices for banks' assets in countries that impose a high standard of law enactment on the disclosure of executive remuneration. The differences in valuations are significantly positive related to the levels of premiums that are paid by stockholders on the book values of assets. The higher the valuation level as proxied by Tobin's q, the larger the deviation from the average valuation in the respective country is.

Again, these country-by-country level regressions bear two systematic problems: First, due to their cumulative nature, they neglect the variations of the bank's proxies and Tobin's qs within one country. For this first analysis, weighted bank proxies for each country have been employed. The arithmetic mean of the proxy for each country has been multiplied by the number of banks located in that country. All the proxies for banks in each respective country have been added together. Second, the sample size of 31 is relatively small. Therefore, in the second step, the regressions are computed on an individual bank's base. This leads to the results shown in table 19:

Table II.19: One-factor regression results of Tobin's qs on bank and country proxy: The explanatory variables are the individual bank disclosure proxy in line one and the country disclosure proxy in the second line. The dependent variable is the individual bank Tobin's qs. "**" denotes statistical significance at the 1% level. Standard errors that account for interdependencies of observations within clusters (countries) are included in parentheses.

	(1)	(2)
bproxy	0.005** (0.001)	
cproxy		0.005** (0.002)
R^2	0.184	0.152

In contrast to the bank-by-bank regression with the P/E ratios, the bank-by-bank Tobin's q regression remains supportive of the hypothesis as conjectured already in the country-based analysis. Adding one point to a bank's disclosure proxy by disclosing one additional element of the executive's remuneration accounts for a 0.0046 point increase, i.e. 0,5% in a bank's value as expressed by Tobin's q, all else being equal. Being located in a country with tighter rules and legislation with respect to disclosure of executive remuneration and therefore higher *cproxy* implies a very similar correlation. Both results are significant on a 1% level.

These high correlations of one-factor regressions bear the danger of omitted variables and endogeneity. In the next chapter, the regression will be controlled by the size of the banks, proxied by the total assets, the level of the capital market integration of a country, the law system and/or the financial orientation of a country.

4.4.3 Multi-factor regression analysis

In order to address the issue of omitted variables in relation to the results of the one-factor regression in 4.4.2, the following six-factor model is estimated:

$$tobinq_i = \beta_0 + \beta_1 bproxy_i + \beta_2 grassets_i + \beta_3 lnassets_i + \beta_4 mcapusd_i + \beta_5 mcapgnp_j + \beta_6 anti\text{-}dir\text{-}rights_j + \varepsilon_i, \quad (4.4\text{-}8)$$

where the explanatory variables are the same as in (4.3-11), except for profit growth control. Here it is proxied by book value of assets growth ($grassets$) over the years 2003 and 2004.

The results are exhibited in Table 20 and include robust cluster-dependent standard errors:

Table II.20: Results of the GLS multi-factor regression of individual bank Tobin's qs on individual bank proxy and control variables: The explanatory variables are the individual banks disclosure proxy and the 5 control variables asset growth (*grassets*), market capitalization of the individual banks (*mcapusd*), the size of banks in terms of the logarithm of total assets (*lnassets*), the capital market integration of the countries (*mcapgnp*) and the strengths of the antidirector rights of the countries (*antidir*). The dependent variable is the individual bank Tobin's q. The first column presents the nonstandardized regression coefficients and the second column shows the standardized (z-transformation) coefficients. "**" and "*" denote statistical significance at the 1% and 5% level. Robust standard errors of the estimated coefficients are included in parentheses.

	Nonstandardized coefficients	**Standardized coefficients**
bproxy	0.004** (0.001)	0.361**
grassets	-0.025 (0.046)	-0.065
mcapusd	5.02e 09 (9.71e 09)	-0.243
lnassets	-0.017** (0.006)	-0.285**
mcapgnp	0.010 (0.015)	0.066
antidir	0.007 (0.005)	0.140
Intercept	Yes	
R^2	0.3	

Clustering, and hence GLS, takes account of within-country interdependencies of errors, since intra-country correlations are very likely. The relation of high quality of disclosure of executive remuneration to positive Tobin's qs remains strong. Similar to P/E regressions, *bproxy* exhibits the strongest positive impact on banks' Tobin's qs and has a high statistical significance in this model specification. The coefficient of *lnassets* is also significant at the 1% level, whereas other control variables do not reach usual significance levels. The *grassets* variable appears to be neither

significant nor consistent with economic theory that suggests that stronger growth should lead to higher Tobin's q.

In this study, the magnitude of diversification of a bank as an explanatory variable on the Tobin's q is not included because, due to the similarity of the subjects in the panel field data, a significant impact is not expected. Lang and Stulz (1994) find no evidence supportive of the view that diversification provides firms with a valuable intangible asset. In contrast, they suggest that highly diversified firms have significantly lower average and median q ratios than single-segment firms.

4.4.4 Endogeneity concerns

The endogeneity concerns expressed in the previous section have to be considered for models with Tobin's q as the dependent variable, too. Using financial system and law dummies as instruments for *bproxy*, as described in section 4.3.6, the estimates exhibited in table 21 with robust (cluster dependent) standard errors are produced.

Table II.21: 2SLS regressions with Tobin's q as the dependent variable on instrumented individual bank disclosure proxies and the control variables: The explanatory variables are the instrumented (by law system and financial system) individual bank disclosure proxies and the 5 control variables asset growth (*grassets*), market capitalization of the individual banks (*mcapusd*), the size of banks in terms of the logarithm of total assets (*lnassets*), the capital market integration of the countries (*mcapgnp*) and the strengths of the antidirector rights of the countries (*antidir*). The dependent variable is the individual bank Tobin's q. "**" and "*" denote statistical significance at the 1% and 5% level. Robust standard errors of the estimated coefficients are included in parentheses.

bproxy instrumented by financial system and law dummies	0.006** (0.001)
grassets	-0.034 (0.041)
mcapusd	1.99e 09** (8.63e 09)
lnassets	-0.021** (0.006)
mcapgnp	0.005 (0.015)
antidir	0.004 (0.006)
Intercept	Yes
R^2	0.27

The Hausman test for endogeneity confirms that there exists a systematic difference between efficient (OLS) and consistent (2SLS) estimates. Thus endogeneity does not appear to be an issue. The results are very similar to those in uninstrumented regressions, with coefficients of *bproxy* becoming slightly larger. It also remains highly significant.

5 Conclusion

In this part of the study, I pursue the question whether higher levels of disclosure of executive remuneration parallel lower risk premiums demanded by investors and/or better stock performance. Four absolute risk-performance measurements are analyzed: long/short strategy, Sharpe ratios, P/E evaluations and Tobin's qs.

First, applying a transparency-based investment strategy, I examine a 78-month period where one would have gone long with the stocks of the top twenty percent of banks displaying the highest disclosure proxies and, concurrently, would have sold short stocks for the twenty percent of banks

with the lowest bank disclosure proxies. The former portfolio would have yielded 9.9% per year, while the latter would have returned 6.5% per year only. However, the return relation of Portfolio 1 to the three consecutive portfolios is not consistent with the hypothesis. If one regards the standard deviation as a proxy for the uncertainty of returns in the respective portfolios, then Portfolio 1 offers the investor the lowest variation of returns around the average return and Portfolios 2, 3 and 4 provide sequentially higher variations of returns around the average return.

Second, I investigate the stock performance in relation to the volatility: the hypotheses are supported that (a) more advanced disclosure produces higher Sharpe ratios on an accumulated country-level and (b) that a significantly positive relation exists between the bank and country proxies and the Sharpe ratio. A one-point increase in a bank's disclosure proxy enhances the Sharpe ratio by 0.43 points. The impact of a country's magnitude of issued rules and legislation regarding the disclosure of executive remuneration is even stronger. However, the hypotheses diminish on an individual banks' level.

Third, the costs of equity capital are estimated, using a methodology based on P/E ratio estimates. I suggest two approaches to deal with the two deficiencies of P/E ratios as well as the alternative yield opportunities of investors for their respective countries. If governments enhance the disclosure rules, the effect on higher P/Es is strong. On the bank-per-country level, regression results assert that a one-point increase in the proxy for disclosure of executive remuneration is still honored by the capital markets with a 0.248- to 0.29-point higher valuation in the capital markets as expressed by the deficiency- and risk-adjusted P/E ratio - in other words, the risk premium demanded by investors is reduced by approximately 0.25. Compared to other explanatory variables in the model, the banks' disclosure quality is predicted to have the strongest positive impact on the adjusted price earnings. The results remain strong in two-stage least squares regressions that address the problem of possible endogeneity of the disclosure proxy.

Fourth, I test the investors' confidence by analysing the Tobin's qs. The conjecture that better bank disclosure and disclosure laws lead to higher Tobin's qs for each bank is supported by the evidence. Regressions with data cumulated per country predict a 0.06-point increase in Tobin's q for a one-point improvement in disclosure. Regressions with individual banks reveal also positive impact of disclosure change on Tobin's q that is smaller in magnitude (about 0.005), but is equally statistically strong and robust across different estimators and model specifications. It also has the greatest explanatory weight compared to other regressors.

Sharpe ratios, P/E ratios and Tobin's qs are frequently - if not the most frequently - employed methods in investment banking and economics to efficiently determine the performance of firms and their relative stock price values. What is supposed to make for the attractiveness of this study is the idea that the nexus of good disclosure of executive remuneration and better investors' confidence could be proven by applying such widely recognized methods. In the case of P/E ratios and Tobin's qs, the evidence supporting the conjectures and the robustness of the results should strongly motivate executives and governments to discuss more advanced transparency standards where necessary. In the case of long/short spreads and the Sharpe ratio, the positive, yet diminishingly weak results on the individual banks' level require further consideration. Hence, in part three of this study, this question will be addressed in a detailed analysis.

Part III

Is Good Transparency of Executive Remuneration Awarded by Abnormal Stock Returns?

Disclosure of executive remuneration by the largest listed banks of the world and the impact on abnormal stock returns

1 Introduction

In part two of this study, the hypothesis that better disclosure of executive remuneration results in better stock performance has been tested univariately via long/short spreads and bivariately via the Sharpe ratio. The positive, yet weak regression results raise the question whether a possible nexus of better disclosure and higher relative stock performance can be established more clearly. This question is addressed in the following, last part of the study. In doing so, three things will have to be considered: first, a more comprehensive asset pricing model must be defined and estimated; second, the hypothesis that better disclosure practices lead to better stock returns must be given a detailed theoretical foundation; and third, the hypothesis in question will have to be tested.

The outline of this last part is as follows. Section two explicates the theory and formulates the hypotheses. In section three, the research design and methodological approach is outlined. I discuss the method of the estimation of the abnormal stock return and describe the data. Section four comprises the data analysis that extensively tests the hypotheses. Section five concludes.

2 Theory and hypotheses

The problem discussed in this last part does not refer to the nexus of absolute stock return/firm performance and the downright level of the executive pay. The latest improvements of disclosure regulations in many countries have triggered an immense body of research papers regarding the absolute executive remuneration level and the firm performance. Kato et al. (2007) find for 246 publicly traded Korean companies that cash compensation is significantly related to firm performance. Also, Kato and Kubo (2006) assert that Japanese CEOs' cash compensation is sensitive to firm performance as do Kato and Long (2006) for Chinese CEOs. In rebuttal to these findings, Girma et al. (2007) conjecture that in the case of the UK, the relationship between pay and performance remains weak and the link to firm size has, if anything, been strengthened after the Cadbury corporate governance reforms. Fattorusso et al. (2007) argue that more transparent performance conditions make managerial rent extraction more difficult, yet may shift pay to higher and camouflaged bonuses with lower pay-performance responsiveness. Also, the conclusions of Kato and Kubo concerning Japan are questioned by Basu et al. (2007), who find that the excess pay related to ownership and monitoring variables is negatively associated with subsequent accounting performance, consistent with the presence of an agency problem. In addition, they do not detect an association between this excess pay and subsequent stock returns. Bebchuk and Fried (2004) state

that US public companies have been inclined to raise executive compensation with the specific aim of improving the sensitivity of managers' wealth to company performance.

The hypothesis addressed in this analysis states that good transparency of the disclosure of the executive remuneration supports possible and positive abnormal stock returns for shareholders. I assert that the better the executive remuneration disclosure is, the higher the abnormal stock returns will be. Moreover, firms domiciled in countries that demand comprehensive and detailed disclosure by issuing and enforcing consequent disclosure enactment might display potentially positive abnormal stocks returns in contrast to firms located in countries with lax disclosure requirements.

With regard to the estimation of possible abnormal stock returns, I refer to the four-factor Capital Asset Pricing Model (CAPM) by Cahart (1997). That is, the absolute stock returns will be controlled for the price of the four risk factors: volatility (Sharpe 1964), size and book-to-market ratio effects (Fama and French 1993) and potential short-term underreactions to information, i.e. the momentum effect (Jegadeesh and Titman 1993).

Investors do not like bridal veils, but want to know the exact nature of the nexus of individual performance, firm profitability and absolute pay level to which their funds are devoted. So what could be the inherent reasons for possible and positive abnormal stock returns in case of good transparency?

First, the absolute stock performance could be higher when transparency is more comprehensive. The executive might be inclined to deliver a better job, knowing that his pay-and-performance nexus is more comprehensively reported to his employers than that of his colleague, whose respective nexus remains obscure and camouflaged. A better management procedure should lead to an improved company performance, which, in turn would eventually result in higher absolute stock returns. Although this argument may seem intuitively common-sense, in the literature, no attempt at producing the evidence has been made so far. After all, with respect to corporate governance, whereof disclosure is one vital part, Mitton (2002) documents that in five crisis-hit countries, significantly better stock price performance is associated with firms displaying quality corporate governance.

Lower volatility of the stock prices of a company exhibiting high disclosure standards may be a second reason for higher abnormal stock returns. Shareholders could be more willing to stick to their stocks even when the company is troubled by bad performance or volatile stock markets, because they know the executives - sharing the shareholder's financial fate - are highly motivated to

improve the firm's situation. This may create mutual trust and a win-win situation. Fewer sales of stocks as well as fewer repurchases of stocks after trend reversals result in lower stock price volatility and, ultimately, in possible positive abnormal stock returns.

Third and generally, smaller companies display higher inherent risk than larger companies (Fama and French 1993). However, if a small company delivers the same quality of the disclosure as a large company, the risk for the shareholder may be reduced. Thus the shareholder of a small company with good executive remuneration disclosure may exhibit the same strategic investment behaviour as the shareholder of a large company. The specifically higher volatility of that small firm compared to larger firms may diminish and, hence, produce possible abnormal stock returns.

Fourth, the same line of argument goes for the book-to-market ratio of a company. There is evidence for the view that stock prices of a firm with a high book-to-market ratio display higher responsiveness to the stock market than those of a company with low book-to-market values (Fama and French 1993). The proposed reason is that the low market value in relation to the book equity value expresses concerns about the future prospects of that firm. In the case of a firm with a low book-to-market ratio and good disclosure of executive remuneration, the low market evaluation may have less to do with the shareholder's anxiousness about future prospects. Possibly, the valuation might reflect a more objective assessment of the company's situation. The shareholder's investment decisions might resemble more the decisions of an investor who is oriented to firms with a higher book-to-market value. The responsiveness of the low book-to-market stock of that firm might be lower and, hence, abnormal returns could be the result.

Fifth, momentum is consistent with delayed price reactions to firm specific information (Jegadeesh and Titman 1993). Possibly, investors who buy past winners and sell past losers temporarily move prices away from their long-run values, thereby causing prices to overreact. Shareholders may be underreacting to information about the short-term prospects of firms. A shareholder of a firm that displays excellent transparency of the pay-and-performance relationship will be extensively and thoroughly informed. In the face of any new good or bad news about that company, the shareholder will reassess their stock pricing accordingly, because the previous stock price was construed of accurate data. This results in lower short-term underreaction to information compared to other firms that do not practice comprehensive disclosure. Lower underreaction leads to less overreaction in the stock pricing, the market values are not driven away from their actual values. This adds up to lower momentum and possibly results in abnormal returns. Chui et al. (2000) conducted an analysis of momentum and the influence of legal systems of the Asian stock markets. They examine the listed assets of eight different Asian countries: the four common law countries

Hong Kong, Malaysia, Singapore and Thailand, and the four civil law countries Indonesia, Japan, Korea and Taiwan. Among others, they tested the conjecture that the momentum effect should be stronger in countries with weak investor protection. The momentum in civil law countries should be higher. However, their evidence does not support this conjecture. The countries with significant momentum returns, Hong Kong, Malaysia, Singapore and Thailand, are all common law countries. To explain this, they offer another argumentation. Stock prices can be manipulated, and this occurs more frequently in civil law countries, where it is more difficult to enforce security laws. Market manipulation can potentially offset the momentum effect if manipulators tend to induce negative serial correlation in stock returns by pushing stock prices above their intrinsic values with false disclosures and then let the prices subsequently collapse. La Porta et al. (1997-2000) show that investor protection in common law countries is stronger than in civil law countries.

The issue of the relation of good corporate governance to abnormal return is discussed by Gompers et al. (2001 and 2003). The authors analyze about 1,500 US firms, using 24 possible provisions against good corporate governance. To estimate the performance, they employ the four-factor model of Cahart (1997). Thus their approach differs from my analysis in 4.1 and 4.2 of part two, where univariate long/short spreads and the Sharpe ratio were estimated. Their evidence asserts that over the time period from 1990 to 1999, an investment strategy that purchased the portfolio of the firms with the lowest provisions and sold short the portfolio comprising the firms with the highest provisions against good corporate governance, would have yielded striking 8.5% of abnormal annual returns.

These arguments strengthen the conjecture that firms displaying high transparency of executive remuneration will exhibit higher abnormal stock returns than firms that camouflage the pay-and-performance nexus of their executives.

However, factors other than those described above might explain abnormal returns, too. On the country level, these variables could be the capital market integration of a country, designed to capture the importance of the capital markets for the total income of the country and proxied by the total stock market capitalization in relation to the country's GNP. On the individual firm's level, the first explanatory variable that I will test is the size of the company, measured by the sum of the total assets of the balance sheet. I assume that the different equity market capitalizations of the firms are sufficiently considered by the size risk price factor of the CAPM. The leverage of debts to equity capital and the growth of the total assets will form two more explanatory variables of the company level.

The source and definition of the data as well as the construction and the estimation of the risk factors will be outlined in the next chapter.

3 Research design and methodological approach

3.1 Estimation of the abnormal stock return

Basically, Ross's (1976) arbitrage pricing theorem (APT) laid the ground for the numerously flourishing multi-factor models that are denoting current research papers. Ross's arbitrage pricing theorem does not identify the respective risk factors. Theoretical research provides several potential candidates. I will include four sources of risk in this analysis. The abnormal stock returns of the companies in the sample will be estimated by the capital asset pricing model of Sharpe (1964), enhanced by the two proxies defined by Fama and French (1993) for size and book-to-market ratio effects. Also, the momentum effect by Jegadeesh and Titman (1993) will be considered. I will use four equations in subsequent regression analyses:

one-factor model: $$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} \cdot RMRF_t + \varepsilon_{i,t} \quad (3.1\text{-}1)$$

three-factor model: $$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} \cdot RMRF_t + \beta_{2,i} \cdot SMB_t + \beta_{3,i} \cdot HML_t + \varepsilon_{i,t} \quad (3.1\text{-}2)$$

four-factor portfolio return model:

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} \cdot RMRF_t + \beta_{2,i} \cdot SMB_t + \beta_{3,i} \cdot HML_t + \beta_{4,i} \cdot Momentum_t + \varepsilon_{i,t} \quad (3.1\text{-}3)$$

four-factor market return model:

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} \cdot RMSCIRF_t + \beta_{2,i} \cdot SMB_t + \beta_{3,i} \cdot HML_t + \beta_{4,i} \cdot Momentum_t + \varepsilon_{i,t} \quad (3.1\text{-}4)$$

whereas $R_{i,t}$ is the monthly, actually observed stock return of bank i in period t in excess to the monthly risk free asset return $R_{f,t}$ in period t. $RMRF$ is the monthly return of the stocks of the portfolio minus monthly risk free asset return $R_{f,t}$. $RMSCIRF$ is the monthly return of the Morgan Stanley Capital world equity price index minus the monthly risk free asset return $R_{f,t}$. SMB (small-minus-big) is designed to capture the different market equity size effects, HML (high-minus-low) to assess book-to-market equity effects, and $Momentum$ to estimate momentum effects. $RMRF$, $RMSCIRF$, SMB, HML and $Momentum$ are expected risk price premiums, $\beta_{1-4,i}$ are the respective slopes and thus, the factor loadings of the individual bank i to the respective risk price premium, estimated as regression coefficients of the respective risk factors. α_i

is the monthly mean abnormal stock return of company i. α_i is the estimated intercept coefficient of the regression curve. A positive α_i epitomizes an additional, abnormal stock performance attribution, not deriving from or not being explained by the four risk factors. High positive α_i yields supplement performance for the investor out of a non-diversifiable, systematic attribution. In contrast, negative α_i reduces the investor's diversifiable abnormal return. If one assumes that all available information concerning the company i and the capital markets is included in the equity prices, then positive α_i shows an overperformance of the company after controlling the actual abnormal returns by the four risk parameters, and vice versa, a negative α_i indicates an underperformance.

In this analysis, the four-factor market return model is favored, yet the other three equations for the estimation of the abnormal stock return are included to ensure that the results are authenticated by the results of different model specifications and do not accidentally derive from one model outline.

The factor models are consistent with a market equilibrium model with four risk factors. Alternatively, they may be interpreted as a performance attribution model, where the coefficients and premia on the factor-mimicking portfolios indicate the proportion of mean return attributable to the according four elementary strategies high-versus-low beta stocks, small-versus big market capitalization stocks, value-versus-growth stocks and one-year return momentum versus contrarian stocks. Gompers et al. (2001 and 2003) mention an ongoing debate about whether the four factors are proxies for risk or return. However, they take no position on this issue and simply view the four-factor model as a method of performance attribution. They interpret the intercept coefficient α as the abnormal return in excess of what could have been achieved by passive investment in the factors. Cahart (1997) suggests that the four-factor model is consistent with a model of market equilibrium with four risk factors.

In this analysis, the period from January 1995 to December 2006 is the estimation period. Thus I consider a completed time period in the past, where the monthly stock returns $R_{i,t}$ in excess to the monthly risk free asset return $R_{f,t}$ are actually existent and observable. Hence, for the purpose of this analysis, I conjecture $\beta_{1,i}$ $RMRF$ is the price for the risk of the volatility, $\beta_{2,i}$ SMB is the price for the risk of investing in a smaller bank, $\beta_{3,i}$ HML is the price for the risk of investing in a bank with high book-to-market equity capitalization, and, $\beta_{4,i}$ $Momentum$ is the price for the short-term information risk, each of these estimated in the respective market equilibrium. In that sense, risk

factors capture common, viz. shared and undiversifiable, variation in the stock returns of the portfolio (Fama and French 1993 for the three-factor model).

The estimation of the variables of the equations 3.1-1 to 3.1-4 seems to be standard procedure. However, this sample comprises stocks of banks in 29 different countries with accordingly different currencies - viz. varying exchange rates, different risk free rates and distinguished national stock market indices. Also, the gauging the optimal formation and lagging periods for the momentum effect will need to be addressed. The construction and the estimation of the variables of the equation will be next explained in detail.

3.1.1 One-factor model: Sharpe's CAPM

In spite of a lot of critical evidence to the single linearity of the Sharpe CAPM, it has been still the default view for most financial economists and practitioners going into the 1990s (Davis 2001). Sharpe (1964) constructed a market equilibrium theory of asset prices under conditions of risk. Sharpe argues that in equilibrium there will be a simple linear relationship between the expected return and standard deviation of return for efficient combinations of risky assets. For individual assets, there will be a consistent relationship between their expected returns and systematic risk. Diversification enables the investor to escape all but the risk resulting from swings in economic activity - this risk remains even in efficient combinations. Only the responsiveness of an asset's rate of return to the level of economic activity is relevant in assessing its risk. Prices will adjust until there is a linear relationship between the magnitude of such responsiveness and expected return. The Sharpe proxy will be estimated as:

$$RMRF_t = rp_t - rf_t \tag{3.1-5}$$

whereas rp_t is the return of the banks' equally weighted stocks in the portfolio in the month t, assessed by the percentage difference of the stock prices to the stock prices of the previous month. Dividends are included by according accumulation. In this estimation, rp_t is construed in two alternative ways: first, rp_t is the cumulative price difference of all stocks of all banks to the previous month. This is the approach that Sharpe (1964) first suggested, when analyzing individual stocks in a portfolio. A closed world is created in which investors can either purchase stocks of the respective banks in the bank portfolio, or buy the risk free asset. Alternative asset investments, and thus, other risk-return portfolio combinations, e.g., in the stock markets of the 29 countries, are excluded. This is a valid conduction because the risk-return profiles of the banks to each others will

be considered only in relation to different levels of disclosure of executive remuneration (see also Sharpe et al. 1995).

However, this proceeding does not indicate the responsiveness of the banks stock prices to the world stock market, which may or may not be different. The disclosure proxy of the individual banks or the country's enactment proxies may or may not exhibit different explanatory power with regard to the different abnormal stock returns. Hence and second, for equation 3.1-4:

$$RMSCIRF_t = rmsci_t - rf_t \tag{3.1-6}$$

whereas $rmsci_t$ is the monthly return of the world stock market index MSCI.

rf_t is the return of a risk free asset. The banks in the sample are domiciled in 29 countries, hence there are 29 different risk free rates. For purpose of this simulation, rf_t is created as a world risk free rate by forming the arithmetic average of the monthly returns of all risk free assets in the respective 29 countries in which the 191 banks in the portfolio are located. In the case of the US, it is the T-bill rate, in the other countries the according asset class. Thereby the return contribution of each country is weighted by the number of banks in relation to the total number of banks in the portfolio.

The individual banks slope to the Sharpe proxy is estimated by:

$$\beta_{1,i} = \frac{\partial_{i,p}}{\partial_p^{\,2}} \tag{3.1-7}$$

whereas $\beta_{1,i}$ is the beta coefficient for bank i and determines the covariance of bank i to the bank portfolio in relation to the variance of the portfolios excess returns to the risk free rate. $\partial_{i,p}$ is the covariance of the returns of bank i to the returns of the portfolio minus the return of the risk free rate rf_t. $\partial_p^{\,2}$ is the variance of the returns of the banks in the portfolio minus the return of the risk free rate rf_t. The $\beta_{1,i}$ coefficient is estimated as the slope in the time series regression of the banks stock returns on the excess portfolio returns.

Once again, as in the case of the Sharpe premium proxy, two betas are gauged for the two four-factor models 3.1-3 and 3.1-4, first with the cumulated returns of all banks in the portfolio, and second with the MSCI world stock market index.

With regard to the respective weights of the banks in the portfolio in terms of size, the calculation of the Sharpe proxies and betas can be conducted in two alternative ways: Either each bank may contribute the same magnitude of risk to the portfolio, or each bank delivers weighted according to risk with its respective size to the portfolio. In this analysis, the first approach will be estimated. The potential impact of the size of the banks will be considered separately in a multivariate regression analysis later.

Another issue stems from the different currencies in which the banks' stocks are quoted. To solve this problem, all non-US currencies are converted to the US-Dollar on a monthly base, using the respectively effective exchange rate.

All data has been gathered on a monthly base for the time period from January 1995 to December 2006. This time interval has been selected deliberately. On the one hand, a longer time period would have significantly reduced the potential number of banks that could be included in this analysis due to data availability. On the other hand, this time period more or less ensures that all national stock markets of the 29 countries in the panel have had at least one significant bull and bear phase.

One systematic criticism of the Sharpe model addresses the assertion that one beta coefficient for each bank exists and remains constant over the time. In rebuttal, evidence from Wu and Chiou (2007) and Bollerslev et al. (1988) suggest that the beta coefficients are indeed time-varying. The originating conditional covariances are quite variable over time and are a significant determinant of the time-varying risk premia. To at least partially address this issue, in addition to the traditional estimation of the abnormal returns as one time-series regression intercepts, the alphas will be subsequently estimated in rolling regressions. They will be calculated as means of intercepts (alphas) of 83 rolling regressions. Each rolling regression is with 60 monthly observations. For each subsequent regression, the time window of 60 months has been moved one month forward. The total time span remains unchanged from January 1995 until December 2006.

Fama and French (1993) challenge Sharpe's conjecture that only the responsiveness of an asset's rate of return to the level of economic activity is relevant when assessing its risk. Their enhancement of the CAPM will be addressed next.

3.1.2 Three-factor model: small-minus-big and high-minus-low

Fama and French (1993) have displayed that extending the classic CAPM by two factors leads to a better theoretical explanation for risk-adjusted returns of assets. The two factors are the relative size of a company as well as the relation of the book value to the market capitalization of a company. The three-factor model improves, on average, the pricing errors from the one-factor model.
Smaller companies and companies with a high book-to-market ratio display higher returns in relation to the portfolio. This relationship was tested and proven extensively across industries and different periods of time by Fama and French (1994, 1996, 1997), Annin (1997), and, across countries by Arshanapalli et al. (1998). Already in 1981, Banz (1981) systematically analyzed the differences in size and its impact on excess returns, using all stocks of the NYSE from 1926 to 1975 as data source. Banz argues that on average, over 40 years, small NYSE companies possess significantly higher risk-adjusted returns by 0.4% per month than large NYSE companies. Hence, Banz conjectures that due to the longevity of these size-related differences in returns, there exists a defect of the explanatory power of the classic CAPM. The results are not just because of market inefficiency.

The statistically relevant effect of size, however, does not deliver a theory that explains the effects fundamentally. It is not possible collinearity with the other factor loadings (Cahart 1997). One hypothesis is based on the varying availability of information about small and large firms. Investors expect higher risk premiums for firms with lower transparency. Usually, the transparency and the availability of information of smaller companies are not as good as that of large firms. Barry and Brown (1985) suggest a hypothesis which relates the impact of different levels of information to the balance of the capital market. Unfortunately, the authors do not deliver empirical evidence. Moreover, the relation of bad information base and smaller companies goes without analysis.

The analyzed banks possess significant differences in size as well as very different market-to-book ratios. SMB (small-minus-big) estimates the monthly difference of returns of small in excess to large banks from January 1995 to December 2006. The proxy for the size is the market capitalization of the banks as of 2004 (Bloomberg, The Banker 2005). The banks are divided into two groups. In the BIG group, all large banks are sorted until the sum of their market capitalization reaches 70% of the total market capitalization of all banks in the portfolio. The remaining banks are grouped into the SMALL portfolio. Finally, SMB is the monthly difference of the equally-weighted stock returns of banks in the SMALL group minus the equally-weighted stock returns of members of the BIG group. The coefficient $\beta_{2,i}$ of the individual bank i to the SMB risk factor is:

$$\beta_{2,i} = \frac{\partial r_{i,}, rSMB_t}{\partial^2 rSMB_t} \tag{3.1-8}$$

whereas $\partial r_{i,}, rSMB_t$ is the covariance of the monthly stock returns of the individual bank i to the monthly SMB returns from January 1995 until December 2006, and $\partial^2 rSMB_t$ is the variance of the SMB in that time period. The coefficient $\beta_{2,i}$ is estimated as the slope in the multivariate time series regression of the banks stock returns on the SMB portfolio returns.

HML (high-minus-low) estimates the risk factor of returns of the varying book-to-market equity ratios of the banks in the sample. Using the book-to-market ratios as the sort key, the banks are divided into three portfolios by a equally-weighted, descending 30%/40%/30% distribution into HIGH, MEDIUM and LOW-portfolios. HML results as the subtraction of the equally-weighted monthly stock returns of the banks in the HIGH portfolio minus the equally-weighted returns of the banks in the LOW portfolio from January 1995 until December 2006. The coefficient $\beta_{3,i}$ of the individual bank to i the HML risk factor is:

$$\beta_{3,i} = \frac{\partial r_{i,}, rHML_t}{\partial^2 rHML_t} \tag{3.1-9}$$

whereas $\partial r_{i,}, rHML_t$ is the covariance of the monthly stock returns of the individual bank i to the HML returns from January 1995 until December 2006, and $\partial^2 rHML_t$ is the variance of the HML in that time period. The coefficient $\beta_{3,i}$ is estimated as the slope in the multivariate time series regression of the banks stock returns on the HML portfolio returns.

3.1.3 Four-factor model: momentum

Investment strategies that exploit momentum by buying past winners and selling past losers predate the scientific evidence and have been implemented by a vast of professional investors worldwide. The popularity of this approach has grown to the extent that momentum investing constitutes a distinct style of investment in the world equity markets. DeBondt and Thaler (1985 and 1987) suggest that stock prices overreact to information. Hence, they conjecture that buying long-term past losers and selling long-term past winners (contrarian strategy) achieve abnormal returns. They

show that over 3- to 5-year periods, stocks that performed poorly over the previous 3 to 5 years achieve higher returns than stocks that performed well over the same period. However, since long-term losers outperform the long-term winners only in a January, it is unclear whether their results can be attributed to overreaction.

Jegadeesh (1990) documents that monthly returns on individual stocks exhibit significantly negative first-order serial correlation and significantly positive higher-order serial correlation. Ten portfolios were formed based on the predicted returns and the difference between the excess returns on the extreme decile portfolios was 2.49 percent per month over the period 1934-1987, and still 2.20 percent per month excluding the January anomaly. Jegadeesh and Titman (1993) show that trading strategies which buy short-term past winners and sell short-term past losers realize significant abnormal returns over the 1965 to 1989 period. The strategy which selects stocks based on their past 6-month returns and holds them for 6 months realized an excess return of 12.01% per year on average. They conjecture that momentum is consistent with delayed price reactions to firm specific information. However, the longer-term performances of these past winners and losers reveal that half of their excess returns in the year following the portfolio formation date dissipate within the following two years. One possible explanation is that investors who buy past winners and sell past losers move prices away from their long-run values temporarily and thereby cause prices to overreact. Second, market participants possibly underreact to information about the short-term prospects of firms but overreact to information about the long-term prospects.

Fama and French (1996) find that the three-factor model of Fama and French (1993) captures the reversal of long-term returns documented by DeBondt and Thaler (1985). Moreover they assert that their three-factor model explains the strong patterns in returns observed when portfolios are formed on earnings/price, cash flow/price, and sales growth. However, they admit that the three factor relation cannot explain the continuation of short-term returns documented by Jegadeesh and Titman (1993). Chan et al. (1996) show evidence that momentum in stock prices relates to the market's underreaction to earnings-related information. Conrad and Kaul (1998) implement the momentum strategy at eight different horizons and during several different time periods from 1926 to 1989. They conclude that momentum strategy usually nets positive and statistically significant profits at medium time horizons, i.e., three to twelve months, except during the period from 1926 to 1947.

Momentum effects are not limited to the U.S. Rouwenhorst (1998) conjectures that international equity markets exhibit medium-term return continuation. He shows that between 1980 and 1995 an internationally diversified portfolio of past medium-term Winners outperforms a portfolio of

medium-term Losers. In his sample, return continuation is negatively related to firm size, but is not limited to small firms. The international momentum returns are correlated to those of the United States which suggests that exposure to a common factor may drive the profitability of momentum strategies. More confirmation that momentum is a systematic risk factor derives from Hong and Stein (1999), who modelled and tested a unified theory of underreaction, momentum trading, and overreaction in asset markets. The dependency of the momentum effect on the firm size has been researched by Hong et al. (2000).

$Momentum_t$ is construed as the difference of the monthly stock returns of the 30% of banks with the highest momentum in the sample ($rhighreturn$), subtracted by the monthly stock returns of the 30% of banks with the lowest momentum ($rlowreturn$). The stock returns of all banks have been weighted equally. To tackle the problem of selecting the most significant momentum in the sample by finding the optimal formation and lagging periods, different periods have been simulated. The tested formation and lagging periods are three, six, nine and twelve months, respectively and alternatively. The lagging period always ended in June 2005 and started at the according number of months earlier. The reason for the end of the lagging period is that the annual reports for 2004 are generally published in the spring of 2005. Thus, the information about the disclosure of the executive remuneration and the reaction to that information should be reflected in the stock prices in the first half of 2005. The formation period ended at the month before the beginning of the lagging period and started at the respective number of months of the formation period earlier. The strongest momentum has been detected by the formation period and the lagging period of 12 months each. The analysis to this result is presented in appendix 9.

The coefficient $\beta_{4,i}$ of the individual bank i to the $Momentum_t$ risk factor is:

$$\beta_{4,i} = \frac{\partial r_i, rhighreturn - rlowreturn}{\partial^2 rhighreturn - rlowreturn} \tag{3.1-10}$$

whereas $\partial r_i, rhighreturn - rlowreturn$ is the covariance of the monthly stock returns of the individual bank i to the $Momentum_t$ returns from January 1995 until December 2006, and $\partial^2 rhighreturn - rlowreturn$ is the variance of the $Momentum_t$ in that time period. The coefficient $\beta_{4,i}$ is estimated as the slope in the multivariate time series regression of the banks stock returns on the $Momentum_t$ portfolio returns.

3.2 Data and time-series considerations

The construction of the proxy for the degree of disclosure of executive remuneration has been explained in part I. In this case, the data set contains information about the 191 largest publicly listed banks of the world, whose data have been available for the time period under consideration.

The proxy for the size of a bank is the bank's total assets in USD per December 31, 2004, according to the overview of the top 1000 world banks in The Banker (The Banker, 2004 and 2005).

The banks' disclosure data for this study has been gathered primarily from the 191 individual annual reports from 2004 and/or 2003 respectively. Of course, firms coordinate their disclosure activities across different media, such as the quarterly reports, investor relations disclosures, ad-hoc news etc. Lang and Lundholm (1993) find a significant rank-order correlation between annual reports and other publication disclosure ranks, as well as between annual reports and investor relations disclosure. Thus their findings support the employment of the annual report as the information base for the disclosure proxy. For some of the US banks, the data source of executive compensation was obtained from company proxy statements filed with the SEC, condensed via the American AFL-CIO (2005). The countries' respective disclosure laws and regulations have been investigated up to June 2005 with the help of Ernst&Young Law International, Ferrarini and Moloney (2005) and the numerous listing rules of the respective stock exchanges.

The monthly stock prices from January 1995 to December 2006 for each bank and the monthly currency exchange rates for each country from non-US dollar to US dollar have been gathered from Bloomberg. The market capitalization of each bank in USD and the book value of the equity capital stem from The Banker (2004, 2005).

The asset growth variable for each bank is derived from Bloomberg and is calculated in percentage from the end of 2004 to the end of 2003. The leverage of each bank per the end of the fiscal year 2004 is proxied by the total debt to total assets, which is calculated in percentage as follows: (Short Term Borrowings + Long Term Borrowings + Securities Sold with a Repurchase Agreement) divided by Total Assets. The data source is Bloomberg. The market capitalizations of the national stock markets per the respective GNPs of each country at the year 2004 stem from part one of this thesis.

Thus, sufficient time symmetry exists for the disclosure proxy of the banks' executive remuneration and the countries' proxy for the enactment of regulations concerning disclosure requirements, book

equity capital and market capitalization (size) of the banks, and the country-specific variables. The momentum effect has been calculated by the effect of the general release date of the annual report for 2004 of the banks, viz. the first half of the year 2005.

To investigate possible connections between the quality of executive remuneration and stock returns, I use time series-stock returns for the period 1995 to 2006, whereas the data on disclosure is available as of 2003 and/or 2004 only. Although time-series data on disclosure proxy would have certainly been preferable, gathering those data was beyond my means due to complexity and unavailability of information. Moreover, examination of annual reports for other years that were available to me showed that transparency levels remained about the same for the years before and after 2004. On the other hand, the corporate governance structures of firms, whereof the disclosure of the executive remuneration is a vital part, evolve relatively stable since 1990 (Gompers et al. 2001). Corporate governance systems are interrelated with the law paradigm and the market system of a country (La Porta et al. 1997, 1999), both are persistent over long time periods. In addition, in part one I have presented evidence that bank proxies are significantly and strongly correlated with the respective countries' law paradigm (common and civil law), law origin (English, Scandinavian, German and French) and financial system (market- vs. bank-centered). With regard to the 29 countries, neither of the three dimensions has reversed during the time period from 1995 to 2006.

The form and content of annual reports of firms are generally constant and comparable over the years (Lang and Lundholm 2000). For two apparent reasons, it is unreasonable to assume erratic changes in terms of the reporting structure. First, consistency in the reporting structure allows investors to easily locate information when moving from one report to the next. Second, disclosure rules require specific information elements to be included in the annual report and, although disclosure standards within the countries have evolved over time, they do not change very often (Stanko and Zeller 2003).

The execution of disclosure is required by laws and binding listing rules (appendix 4). Those do not vary much over the years. Moreover, the principal of disclosure continuity prevails, i.e. laws prohibit constantly changing disclosure patterns to some.

In conclusion, I conjecture that the essence of these arguments allows for a long-term study of the relationship of stock prices and the transparency of executive remuneration.

4 Data analysis: disclosure and abnormal returns

4.1 Bank-by-bank time-series regressions

The bank's individual monthly abnormal stock returns (alphas) are estimated as intercepts of alternatively one-, three- and four-factor time-series regressions (equations 3.1-1 to 3.1-4). The four-factor model is estimated two times, first, by using the stock returns of all 191 banks in the portfolio and, second, by employing the world equity stock market index MSCI returns as the return of the market portfolio. The mean monthly average alphas of the banks per country and the respective standard deviation are exhibited in table 1. The estimation period is January 1995 until December 2006.

Table III.1: Summary statistics for alphas estimated as intercepts from bank-by-bank time-series regressions. The four alternative multi-factor models are explained in chapter 3.1. These are used to estimate the monthly abnormal stock return (alpha) of each of the 191 banks domiciled in the respective 29 countries. The mean alpha represents the arithmetic average of the monthly abnormal stock returns of the number of banks per country, controlled for the prices of the risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. SD denotes the standard deviation of the alphas of the banks per country.

		One-factor model		Three-factor model		Four-factor model		MSCI four-factor model	
COUNTRY	**Number of banks**	**Mean alpha**	**SD**	**Mean alpha**	**SD**	**Mean alpha**	**SD**	**Mean alpha**	**SD**
Australia	6	0.34	0.24	0.43	0.23	0.58	0.23	0.94	0.23
Austria	1	0.80		0.61		0.64		0.72	
Belgium	3	0.23	0.30	0.34	0.32	0.32	0.27	0.71	0.17
Brazil	4	-0.83	0.89	-1.20	0.94	-0.93	0.89	-0.32	0.78
Canada	6	0.59	0.18	0.71	0.18	0.70	0.21	1.12	0.19
China	3	0.77	0.70	0.69	1.12	0.95	1.09	1.25	0.74
Denmark	2	0.91	0.28	1.08	0.12	1.22	0.21	1.52	0.12
France	2	0.21	0.22	0.28	0.16	0.25	0.25	0.87	0.28
Germany	6	-0.39	0.33	-0.54	0.43	-0.49	0.36	-0.01	0.36
Greece	4	0.96	0.51	1.15	0.69	0.71	0.58	1.34	0.59
India	3	1.40	1.64	1.42	1.60	1.54	1.52	1.89	1.24
Ireland	4	0.76	0.69	0.93	0.70	0.78	0.74	1.21	0.74
Israel	3	-0.35	0.25	-0.58	0.57	-0.64	0.51	-0.28	0.50
Italy	9	0.22	0.34	0.07	0.50	-0.09	0.46	0.32	0.48
Japan	51	-0.34	0.25	-0.42	0.28	-0.47	0.33	-0.21	0.35
Malaysia	2	-0.10	0.17	0.06	0.16	0.12	0.21	0.75	0.10
Netherlands	2	-0.11	0.11	0.21	0.02	0.19	0.18	0.79	0.23
Portugal	2	-0.07	0.59	0.01	0.60	-0.18	0.41	0.24	0.35
Singapore	3	-0.07	0.01	0.07	0.09	0.38	0.14	0.85	0.14
South Africa	5	-0.76	0.25	-0.94	0.30	-0.89	0.27	-0.21	0.35
South Korea	3	0.23	1.08	0.25	1.43	1.00	1.59	2.22	1.71
Spain	4	0.31	0.18	0.22	0.14	0.12	0.15	0.62	0.13
Switzerland	2	-0.11	0.19	-0.06	0.18	0.08	0.11	0.61	0.17
Sweden	3	0.36	0.13	0.34	0.20	0.29	0.23	0.75	0.18
Taiwan	2	-1.05	0.25	-0.87	0.62	-0.67	0.85	-0.39	0.66
Thailand	3	-1.67	0.31	-1.47	0.43	-1.16	0.30	-0.18	0.30
Turkey	4	-3.45	0.76	-4.04	0.97	-3.79	1.16	-3.08	1.26
UK	6	0.10	0.17	0.24	0.18	0.19	0.19	0.65	0.31
USA	43	0.46	0.47	0.59	0.45	0.56	0.45	0.92	0.40
Total Mean	191	-0.009	0.41	-0.009	0.49	-0.005	0.49	0.4	0.47

Many of the bank individual alphas, viz. the regression intercepts as estimated by one-, three- and four-factor regressions, exhibit pricing errors that are exceeding statistically conventional significance levels. This issue burdens the analysis, because, in part, I may be using nonexistent variables. Fama and French (1997) have addressed pricing errors in their paper, finding that pricing

errors of industries of 3% and more are typical for the CAPM and the three-factor model. The standard errors of individual firms are certainly much higher. A set of recent papers (Daniel and Titman 2005, Lewellen et al. 2006) attempt to test and interpret pricing errors in CAPM models. Phalippou (2007) shows that just a tiny alteration in test asset construction can have a big effect on the question of how to judge asset pricing models.

Three problems exist with respect to large pricing errors: the first problem arises from imprecise estimates of the factor risk premiums. The average monthly excess return of the 191 bank stocks in the portfolio on the world risk free asset return is 0.77% (9.24% annually), which is very high. The standard error is 0.31. Hence, determining a picture of the mean distribution by calculating the traditional plus-and-minus two standard error interval, the lower bound is 0.15%, the upper bound is 1.39%, leaving a spread of 1.24%. In case of the average monthly excess return of the world equity market index MSCI on the world risk free asset return is merely 0.32%, the standard error is 0.21. The lower bound of the two standard error interval is -0.10% below zero, the upper bound is 0.74%, denoting an interval of 0.84 accordingly. While I can observe this problem, it is inherent in the model specification and cannot be solved.

I will suggest mitigation for the second and third problem. Second, imprecise estimates of the risk loadings might prevail, that would be precise if they were constant. That caveat has been expressed earlier in the theory section. I use a rather long time period from January 1995 until December 2006. The question arises whether possible instabilities of the estimated risk factor coefficients have been neglected, that may or may not impact the regression results. To mitigate this problem, in chapter 4.2 I will estimate time-varying alphas by a rolling bank-by-bank regression analysis. Third, pricing errors of individual firms are larger than that of industries or portfolios. One possible solution to this issue is the formation of portfolios like Gompers et al. (2001) did. I will apply that approach in chapter 4.3, proving statistical significance of alphas within portfolios built according to disclosure quality rankings.

Estimates of firm's individual abnormal returns remain imprecise. With regard to the level of pricing errors of the banks' abnormal stock returns, the following regressions are supposed to provide a general indication.

Table III.2: Bivariate regressions of alphas calculated in the four multi-factor specifications on bank's disclosure proxy at the bank-by-bank level. The *bproxy* estimates the magnitude of the disclosure of the executive remuneration in the annual reports of the 191 banks in 2004 on a scale from 0 to 20 points. The coefficient represents the mean monthly change of the abnormal stock return (alpha) of an individual bank, if all else remains equal, the *bproxy* changes by one point. The alphas are estimated by equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility (one-factor model), in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. The 191 observations represent the 191 banks in the sample.

	alpha from one-factor model	**alpha from three-factor model**	**alpha from four-factor portfolio model**	**alpha from four-factor market model**
bproxy	0.048** (0.014)	0.060** (0.016)	0.056** (0.015)	0.058** (0.016)
Constant	-0.495* (0.210)	-0.621* (0.247)	-0.576* (0.231)	-0.184 (0.251)
Observations	191	191	191	191
R^2	0.18	0.21	0.20	0.21

Robust standard errors in parentheses

significant at 10%; * significant at 5%; ** significant at 1%

The results of the alpha estimations obtained by the time-series regression indicate roughly a 0.05% increase of abnormal stock return per month per increment of one point disclosure proxy, statistically significant at the 1% level. All else remaining equal, if a bank decided to disclose more comprehensively the remuneration of its executive by, e.g., 5 points, the additional annual abnormal stock return of that bank would increase by around 3% in this model environment.

Table 3 exhibits the regression of the banks' alphas per country, obtained by the mean average of the banks' alphas that are domiciled in that country, on the respective country disclosure proxy.

Table III.3: Bivariate regressions of the arithmetic means of alphas per country calculated in the four multi-factor models on the country-level disclosure proxy. The *cproxy* estimates the magnitude of the disclosure rules in the 29 countries in the sample with regard to the executive remuneration in the annual reports on a scale from 0 to 20 points. The coefficient represents the monthly change of the abnormal stock return of a bank, if all else remains equal, the *cproxy* changes by one point. The alphas are estimated by equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility (one-factor model), in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. The 29 observations represent the 29 countries in the sample.

	alpha from one-factor model	**alpha from three-factor model**	**alpha from four-factor portfolio model**	**alpha from four-factor market model**
cproxy	0.045 (0.030)	0.054# (0.033)	0.041 (0.033)	0.034 (0.033)
Constant	-0.399 (0.380)	-0.472 (0.425)	-0.302 (0.425)	0.256 (0.422)
Observations	29	29	29	29
R^2	0.1	0.11	0.07	0.05

Robust standard errors in parentheses

significant at 10%

At the country level, the results are both lower in magnitude of the coefficient and weaker in terms of statistical significance than the results at the bank-by-bank level. Only the regression of the mean banks' alpha per country deriving from the three-factor asset pricing model on the country disclosure proxy provides an estimated coefficient on *cproxy* that is significant at the 10% level. In this particular model, if a country enhances the disclosure requirements concerning executive remuneration by, e.g., 5 points, the abnormal annual stock returns of the banks in this sample would increase by around 3%, all else remaining equal.

Table 4 exhibits the results of the multivariate regressions of alphas on bank proxy, total assets, leverage, asset growth and capital market integration.

According to the hypotheses, the bank proxy coefficient remains positive and statistically significant on a 5% level in case of the one-factor model and on a 1% level in case of the other three estimation models. Moreover, the values with around 0.04% additional abnormal stock return per month and bank per one point increase to the bank proxy persist on a strikingly high level. Although *bproxy* are both statistically significant and high, the other variables are not statistically significant on conventional levels. Here, however, multicollinearity may indeed be a problem.

Table III.4: Multivariate regressions of alphas calculated in the four multi-factor model specifications on bank proxy, total assets, leverage, asset growth and capital market integration. The *bproxy* estimates the magnitude of the disclosure of the executive remuneration in the annual reports of the 191 banks in 2004 on a scale from 0 to 20 points. The coefficient represents the monthly change of the abnormal stock return of a bank, if all else remains equal, the *bproxy* changes by one point. The alphas are estimated by equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility (one-factor model), in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. The 190 observations represent the 191 banks in the sample minus one bank, for which the respective data was not available. *lnassets* denotes the logarithm of total assets of a bank's balance sheet per the end of 2004, the *leverage* of each bank per the end of the fiscal year 2004 is proxied by the total debt to total assets, the *grassets* variable is calculated on the end of 2004, and *mcapgnp* is the market capitalizations of the national stock markets per the respective GNPs of each country at the year 2004.

	alpha from one-factor model	**alpha from three-factor model**	**alpha from four-factor portfolio model**	**alpha from four-factor market model**
bproxy	0.038* (0.015)	0.047** (0.016)	0.042** (0.015)	0.044** (0.014)
lnassets	-0.044 (0.058)	-0.030 (0.063)	-0.029 (0.059)	0.022 (0.055)
leverage	0.005 (0.004)	0.004 (0.004)	0.005 (0.004)	0.004 (0.004)
grassets	0.006 (0.004)	0.006 (0.005)	0.006 (0.005)	0.006 (0.005)
mcapgnp	0.071 (0.290)	0.166 (0.318)	0.182 (0.301)	0.081 (0.279)
Constant	-0.166 (0.987)	-0.513 (1.091)	-0.496 (1.022)	-0.549 (0.962)
Observations	190	190	190	190
R^2	0.20	0.24	0.22	0.24

Robust standard errors in parentheses

#significant at 10%; * significant at 5%; ** significant at 1%

4.2 Rolling bank-by-bank time-series regressions

In this paragraph, I attempt a robustness check of the results of the previous chapter. The analysis is analogically based upon the idea of conditional CAPM (CCAPM), albeit I propose a simplified estimation procedure. The conditional versions of the CAPM of Breeden (1979) are motivated by the rejections of tests of unconditional versions of the CAPM. The conditional models retain the basic structure of the CAPM, but allow for time-variation in the covariation of asset returns with the market or sample return and time variation in the premium associated with this covariation.

Table III.5: Summary statistics for rolling alphas estimated as intercepts from bank-by-bank time-series regressions calculated in the four multi-factor model specifications. The four alternative multi-factor models are explained in chapter 3.1. These are used to estimate the monthly mean abnormal stock return (alpha) of each of the 191 banks domiciled in the respective 29 countries. The mean alpha represents the arithmetic average of the monthly abnormal stock returns of the number of the banks per country, controlled for the prices of the risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. Alphas in these regressions were calculated as means of alphas of 83 rolling regressions. SD denotes the standard deviation of the alphas of the banks per country.

		One-factor model		Three-factor model		Four-factor model		MSCI four-factor model	
COUNTRY	Number of banks	Mean alpha	SD	Mean alpha	SD	Mean alpha	SD	Mean alpha	SD
Australia	6	0.41	0.25	0.48	0.17	0.68	0.16	1.13	0.22
Austria	1	0.34		0.28		0.28		0.33	
Belgium	3	-0.16	0.24	-0.06	0.28	-0.23	0.26	0.33	0.23
Brazil	4	-0.79	0.64	-1.28	0.57	-1.06	0.63	-0.28	0.43
Canada	6	0.73	0.14	0.78	0.22	0.76	0.23	1.21	0.21
China	3	0.46	0.56	0.25	0.55	0.71	0.73	0.93	0.82
Denmark	2	0.84	0.25	0.98	0.12	1.08	0.19	1.44	0.13
France	2	0.52	0.14	0.69	0.12	0.68	0.25	1.37	0.27
Germany	6	-0.96	0.77	-1.11	0.81	-1.23	0.85	-0.50	0.84
Greece	4	0.63	0.48	0.66	0.48	-0.11	0.24	0.63	0.25
India	3	1.08	2.15	0.98	1.69	1.18	1.77	1.65	1.66
Ireland	4	0.71	0.92	0.84	0.86	0.58	0.85	1.13	0.88
Israel	3	-0.71	0.23	-0.84	0.45	-0.96	0.35	-0.51	0.33
Italy	9	0.14	0.48	-0.11	0.71	-0.39	0.65	0.13	0.57
Japan	51	-0.22	0.28	-0.20	0.35	-0.23	0.41	0.02	0.46
Malaysia	2	0.92	0.13	0.89	0.14	1.25	0.05	1.77	0.07
Netherlands	2	-0.37	0.03	-0.24	0.10	-0.35	0.02	0.50	0.03
Portugal	2	-0.45	0.58	-0.42	0.46	-0.68	0.34	-0.18	0.26
Singapore	3	0.48	0.04	0.53	0.10	1.19	0.09	1.71	0.19
South Africa	5	-0.87	0.48	-1.15	0.41	-1.04	0.45	-0.32	0.52
South Korea	3	1.51	1.25	1.40	1.65	2.64	2.21	3.74	2.19
Spain	4	0.09	0.21	-0.14	0.30	-0.22	0.26	0.45	0.05
Switzerland	2	-0.68	0.42	-0.68	0.46	-0.69	0.58	-0.02	0.94
Sweden	3	0.08	0.20	0.05	0.27	0.09	0.28	0.68	0.18
Taiwan	2	-1.21	0.36	-1.15	0.82	-1.14	1.00	-0.84	0.82
Thailand	3	-0.73	0.37	-0.66	0.51	-0.09	0.34	0.88	0.32
Turkey	4	-3.38	0.88	-3.87	0.40	-3.39	0.64	-2.33	1.18
UK	6	0.00	0.40	0.12	0.40	0.08	0.44	0.64	0.48
USA	43	0.40	0.53	0.53	0.50	0.47	0.53	0.85	0.47
Total	191								
Mean		-0.01	0.48	-0.01	0.50	-0.04	0.53	0.05	0.54

Alphas used in these regressions have been calculated as means of alphas of 83 rolling regressions. Each rolling regression was carried out with 60 monthly (viz. 5 years) observations. For each subsequent regression, the time window of 60 months has been moved one month forward. The

total time span remains the same from January 1995 until December 2006. This procedure is supposed to address the issue of potential parameter instabilities, but does not necessarily solve the problem of the high pricing errors in chapter 4.1. Thus, once again, the following regression results are presented with the corresponding caution. The results of the rolling alphas of the banks per country are provided in table 5.

Table 6 presents the estimation results of the bivariate regressions of rolling alphas calculated in the four multi-factor model specifications on the bank's disclosure proxy of executive remuneration on the individual bank-by-bank level.

Table III.6: Bivariate regressions of rolling alphas calculated in the four multi-factor model specifications on the bank's disclosure proxy on the individual bank-by-bank level. The *bproxy* estimates the magnitude of the disclosure of the executive remuneration in the annual reports of the 191 banks of 2004 on a scale from 0 to 20 points. The coefficient represents the monthly change of the abnormal stock return of a bank, if all else remains equal, the *bproxy* changes by one point. The alphas are estimated by equations 3.1-1 to 3.1-4, controlled for the prices of the risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. Alphas in these regressions were calculated as means of alphas of 83 rolling regressions. The 191 observations represent the 191 banks in the sample.

	alpha from one-factor model	**alpha from three-factor model**	**alpha from four-factor portfolio model**	**alpha from four-factor market model**
bproxy	0.040* (0.015)	0.048* (0.018)	0.041* (0.017)	0.044** (0.016)
Constant	-0.413# (0.233)	-0.500# (0.284)	-0.424 (0.261)	0.005 (0.243)
Observations	191	191	191	191
R^2	0.12	0.14	0.09	0.11

Robust standard errors in parentheses

significant at 10%; * significant at 5%; ** significant at 1%

The results of the rolling alpha estimations obtained by the time-series regression indicate about a 0.04% increase of abnormal stock return per month per increment of one point disclosure proxy, statistically significant at the 5% level with the one-, three- and four-factor portfolio model, and significant at the 1% level with the four-factor market model. If a bank decides to enhance the disclosure of its executive's remuneration more comprehensively by 5 points, the additional annually abnormal stock return of that bank would increase by around 2.4% in this model environment, all else being equal.

Table 7 exhibits the bivariate regression results of the banks' mean monthly abnormal stock returns per country on the country proxy, i.e. the magnitude of the rules and regulations of the 29 countries concerning disclosure of executive remuneration.

Table III.7: Bivariate regressions of the arithmetic means of rolling alphas per country calculated in the four multi-factor model specifications on the country-level disclosure proxy. The *cproxy* estimates the magnitude of the disclosure rules in the 29 countries in our sample with regard to the executive remuneration in the annual reports on a scale from 0 to 20 points. The coefficient represents the monthly change of the abnormal stock return of a bank, if all else remains equal, the *cproxy* changes by one point. The alphas are estimated by equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. Alphas in these regressions were calculated as means of alphas of 83 rolling regressions. The 29 observations represent the 29 countries in the sample.

	alpha from one-factor model	**alpha from three-factor model**	**alpha from four-factor portfolio model**	**alpha from four-factor market model**
cproxy	0.046** (0.011)	0.056** (0.012)	0.042** (0.013)	0.036** (0.013)
Constant	-0.489** (0.155)	-0.595** (0.170)	-0.448* (0.189)	0.075 (0.192)
Observations	191	191	191	191
R^2	0.12	0.15	0.08	0.06

Robust standard errors in parentheses

* significant at 5%; ** significant at 1%

In this case, if a country improves the rules concerning the transparency of executive remuneration by one point, and everything else remains equal, than the results of the rolling alpha estimations obtained by the time series regression indicate about a mean 0.04% increase of abnormal stock return per month or 0.48% annually per bank this respective country. The result is statistically significant at the 1% level in all four model specifications.

Table 8 shows the results of the multivariate regressions of the banks' individual rolling alphas on bank proxy, total assets, leverage, asset growth and capital market integration.

Table III.8: Multivariate regressions of banks' individual rolling alphas calculated in the four multi-factor model specifications on bank proxy, total assets, leverage, asset growth and capital market integration. The *bproxy* estimates the magnitude of the disclosure of the executive remuneration in the annual reports of the 191 banks in 2004 on a scale from 0 to 20 points. The coefficient represents the monthly change of the abnormal stock return of a bank, if all else remains equal, the *bproxy* changes by one point. The alphas are estimated by equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility (one-factor model), in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. Alphas in these regressions were calculated as means of alphas of 83 rolling regressions. The 190 observations represent the 191 banks in the sample minus one bank, for which the respective data was not available. *lnassets* denotes the logarithm of total assets of a bank's balance sheet per the end of 2004, the *leverage* of each bank per the end of the fiscal year 2004 is proxied by the total debt to total assets, the *grassets* variable is calculated on the end of 2004, and *mcapgnp* is the market capitalizations of the national stock markets per the respective GNPs of each country at the year 2004.

	-1	**-2**	**-3**	**-4**
	alpha from one-factor model	**alpha from three-factor model**	**alpha from four-factor portfolio model**	**alpha from four-factor market model**
bproxy	0.033* (0.015)	0.037* (0.017)	0.029 (0.017)	0.033# (0.017)
lnassets	-0.054 (0.059)	-0.033 (0.067)	-0.032 (0.066)	0.036 (0.059)
leverage	0.001 (0.004)	0.0003 (0.005)	-0.0001 (0.005)	0.0003 (0.005)
grassets	0.007 (0.005)	0.006 (0.005)	0.007 (0.006)	0.006 (0.006)
mcapgnp	0.101 (0.281)	0.262 (0.309)	0.294 (0.294)	0.108 (0.266)
Constant	0.034 (0.944)	-0.393 (1.054)	-0.353 (0.993)	-0.483 (0.911)
Observations	190	190	190	190
R^2	0.15	0.17	0.13	0.13

Robust standard errors in parentheses

#significant at 10%; * significant at 5%; ** significant at 1%

According to the hypothesis, the bank proxy is positive and statistically significant on a 10% level in the case of the four-factor market model, and significant on a 5% level in the case of the one- and three-factor model. In the case of the four-factor portfolio model, *bproxy* loses its statistical significance. The values of the coefficients with around 0.035% additional abnormal stock return

per month and bank per one point increase of the bank proxy persist on a high level. Although *bproxies* are both statistically significant in most model specifications and high, the other variables are not statistically significant on conventional levels. Here, once again, multicollinearity may be a problem.

Next, I will form portfolios of banks, thereby expecting to find low pricing errors within the portfolios.

4.3 Portfolio regressions

4.3.1 Portfolio regression with two extreme portfolios

In the first calculation, I form three portfolios, two of them containing banks with extreme high and low scores of bank proxies. The HIGH portfolio includes 59 banks with bank proxies of 17 points or more. The LOW portfolio comprises 66 banks with bank proxies of 2 points or less. The remaining 66 banks in the MIDDLE portfolio are not considered. Subsequently, the mean excess stock returns of the HIGH and the LOW portfolio are regressed separately on the four multi-factor portfolio model specifications as defined in equations 3.1-1 to 3.1-4. I estimate the sign and the statistical significance of the portfolio alpha as the intercept in these regressions. The OLS regressions were estimated employing the monthly observations over the period from January 1995 to December 2006. The results are reported in table 9.

Table III.9: Excess abnormal monthly stock returns (alpha high-low) of the two extreme portfolios of banks with highest and lowest disclosure. The Low and High alphas represent the monthly mean abnormal stock return of the 66 banks in the LOW portfolio with *bproxies* of 2 and less, and the 59 banks in the HIGH portfolio with *bproxies* of 17 and more. High-Low (bold) denotes the difference of the monthly mean abnormal returns of the banks in the HIGH minus the LOW portfolio. *Market*, *HML* (high-minus-low), *SMB* (small-minus-big) and *Momentum* are coefficients of the respective risk prices for volatility, size, book-to-market-cap and momentum. Coefficients and alphas are estimated in multivariate regressions of equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. The 142 observations represent the number of months used in regressions, viz. 11.8 years from January 1995 through December 2006.

	One-factor			**Three-factor**			**Four-factor portfolio**			**Four-factor market**		
Model	**High-Low**	**Low**	**High**	**High-Low**	**Low**	**High**	**High-low**	**Low**	**High**	**High-low**	**Low**	**High**
Alpha	**0.859*** (0.427)	-0.457* (0.225)	0.403# (0.227)	**1.085*** (0.445)	-0.562* (0.234)	0.523* (0.237)	**1.035*** (0.455)	-0.542* (0.239)	0.494* (0.242)	**1.072*** (0.450)	-0.180 (0.289)	0.892** (0.299)
Market	0.100 (0.113)	0.860** (0.059)	0.960** (0.060)	0.096 (0.112)	0.863** (0.059)	0.959** (0.060)	0.097 (0.113)	0.863** (0.059)	0.959** (0.060)	0.132 (0.167)	1.061** (0.107)	1.193** (0.111)
HML				0.128 (0.143)	-0.044 (0.075)	0.084 (0.076)	0.117 (0.145)	-0.039 (0.076)	0.078 (0.077)	0.119 (0.145)	-0.025 (0.093)	0.094 (0.096)
SMB				0.119 (0.179)	-0.094 (0.094)	0.024 (0.095)	0.118 (0.180)	-0.094 (0.094)	0.024 (0.096)	0.119 (0.180)	-0.081 (0.115)	0.038 (0.120)
Momentum							0.070 (0.132)	-0.029 (0.070)	0.042 (0.070)	0.067 (0.132)	-0.056 (0.085)	0.011 (0.088)
Observations		142	142		142	142		142	142		142	142
R^2		0.60	0.65		0.61	0.66		0.61	0.66		0.42	0.46

significant at 10%; * significant at 5%; ** significant at 1%

All four high-low alpha intercepts are significant at the 5% level. This two-extreme portfolio model specification generates a strikingly large monthly mean abnormal stock return excess of the HIGH portfolio on the LOW portfolio from 0.86% to 1.08%, that is about 10% to 12% annually. These abnormal stock returns could have been achieved by buying the stocks of the banks in the HIGH portfolio and selling short the LOW portfolio over the period from January 1995 to December 2006.

Aside from the alphas, both of the volatility risk price coefficients (shown in table 9, β_1 in the equations 3.1-1 to 3.1-4) of the stocks of the banks in the two HIGH and LOW portfolios are close to one and statistically significant in all four multi-factor model specifications. The other risk price coefficients are not significant on conventional statistic level. Hence, I cannot argue about the differences in the responsiveness of the banks' stock prices with regard to differences in size, book-to-market caps and/or momentum.

This strikingly severe punishment of an investment in a portfolio of banks with extremely bad transparency of executive remuneration, and concurrently, the stunning financial reward of buying stocks of banks with excellent disclosure, raises the question whether the result is robust to other portfolio setups or is accidentally dependent of this particular portfolio specification.

4.3.2 Portfolio regressions with nine systematic portfolio setups

Since the extreme portfolio division that I followed above may appear somewhat arbitrary, I next implement portfolio setups that are constructed by systematically dividing the sample of the 191 banks into 2 to 10 portfolios and consider the outside portfolios (HIGH and LOW disclosure proxies) for each of these setups. By changing portfolio divisions I also check the robustness of results achieved above. The variable used for dividing the sample into the portfolios is the bank's individual proxy for the disclosure of executive remuneration. Table 10 contains the values of *bproxy* that define low and high portfolios and the number of banks in those portfolios.

Table III.10: Alternative portfolio constructions. The divisor determining the number of the portfolios is the bank proxy. The *bproxy* estimates the magnitude of the disclosure of the executive remuneration in the annual reports of the 191 banks in 2004 on a scale from 0 to 20 points (see chapter 3.2 for details). The model setups with 8 and 9 portfolios are identical, because there are no banks with disclosure proxies that fall in the interval between cutoff points of the 8 and the 9 portfolios. The Low (High) number of banks represents the quantity of banks in the portfolio with the lowest (highest) *bproxy*, determined by the individual bank's *bproxy* less (more) or equal than.

Number of portfolios	Low		High	
	bproxy less or equal than	Number of banks	*bproxy* more or equal than	Number of banks
10	1.90	14	17.10	58
9	2.11	66	16.89	59
8	2.38	66	16.63	59
7	2.71	66	16.29	64
6	3.17	69	15.83	74
5	3.80	71	15.20	77
4	4.75	71	14.25	82
3	6.33	74	12.67	87
2	9.50	91	>9.5	100

According to the portfolio regression described above in the case of the extreme portfolio, for each of the nine portfolios 2 to 10, I employ the two outside lying portfolios LOW and HIGH, and subsequently estimate the monthly mean abnormal stock returns of the respective number of the banks in the portfolio by using the four multi-factor model specifications 3.1-1. to 3.1-4. I then calculate the abnormal return that could be achieved by buying the stocks of the banks comprised in the HIGH disclosure portfolio and selling short the LOW disclosure portfolio by regressing the difference of the returns of the two outside portfolios. Table 11 exhibits the results.

Table III.11: Abnormal monthly stock returns (alpha) of an investment strategy that is long in stocks of banks with highest disclosure and short in stocks of banks with lowest disclosure with 9 different portfolio allocations. Alphas are estimated by time-series regressions using the four multi-factor model specification 3.1-1 to 3.1-4, controlled for the prices of risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. HIGH-LOW denotes the difference of the monthly abnormal stock returns of the banks in the HIGH in excess of the LOW portfolio. The 142 observations represent the number of months used in regressions, viz. 11.8 years from January 1995 through December 2006. The composition of the number of portfolios is shown and explained in table 10.

Number of portfolios	One-factor model	Three-factor model	Four-factor portfolio model	Four-factor market model
	alpha HIGH-LOW	alpha HIGH-LOW	alpha HIGH-LOW	alpha HIGH-LOW
2	0.607#	0.752*	0.704*	0.741*
3[4]	0.742*	0.932*	0.887*	0.945*
4	0.761#	0.956*	0.909*	0.969*
5	0.799#	1.004*	0.953*	1.005*
6	0.812*	1.024*	0.979*	1.029*
7	0.837*	1.065*	1.013*	1.054*
8	0.859*	1.085*	1.035*	1.072*
9	0.859*	1.085*	1.035*	1.072*
10	1.515*	1.900**	1.504*	1.217#
Mean	0.866	1.089	1.002	1.012
Median	0.812	1.024	0.979	1.029
SD	0.256	0.321	0.215	0.128
Obser-vations	142	142	142	142

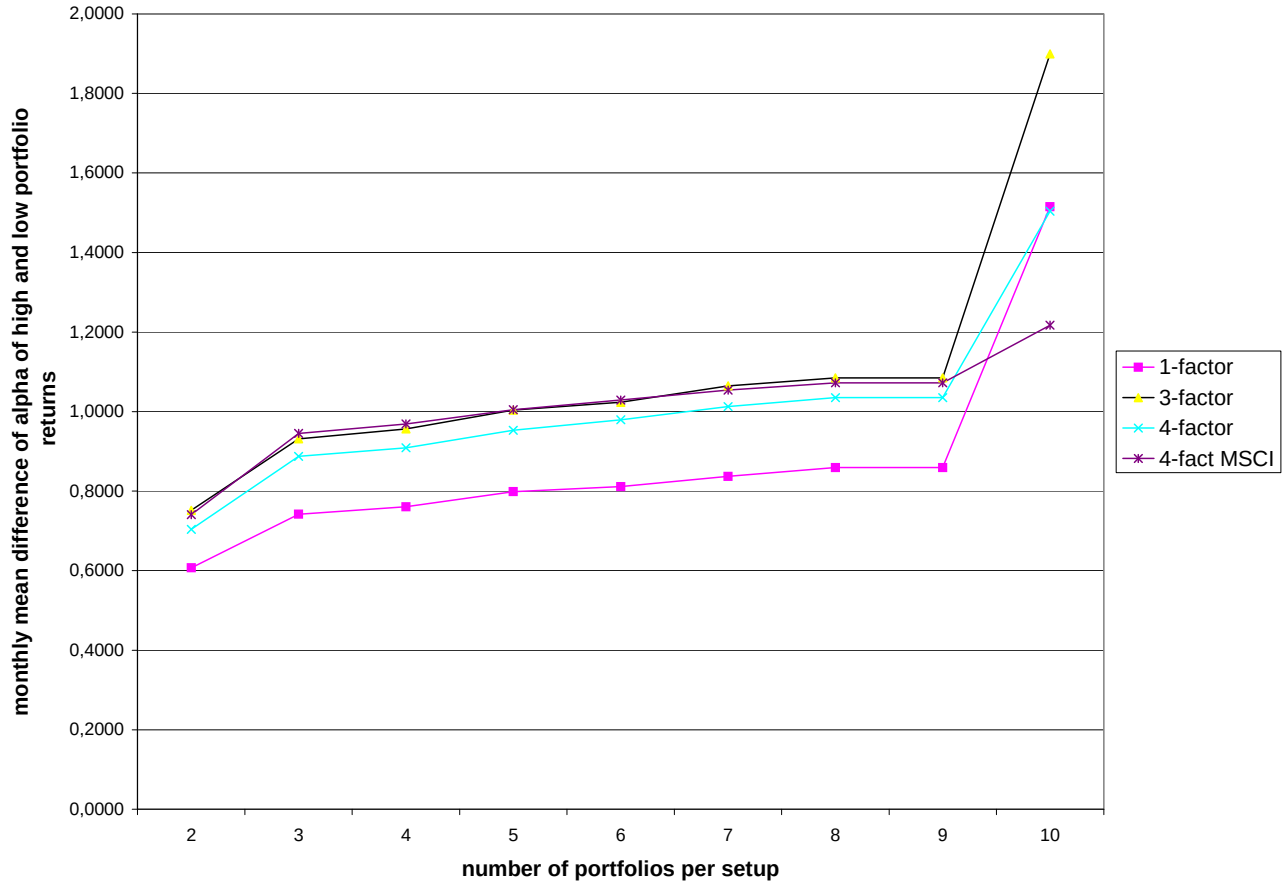
significant at 10%; * significant at 5%; ** significant at 1%

Once again, the strategies of investing in a banks' stocks portfolio with excellent disclosure and short-selling the group of banks with the worst transparency of executive remuneration in January 1995 would have generated monthly mean abnormal stock returns between 0.61% and 1.90% per December 2006. Basically all of the results are statistically significant at the 5% level. Thus the results in table 9 prove to be largely robust to the respective construction of the portfolio setup. The four-factor market model shows the lowest standard deviation of returns in relation to the number of subgroups, the three-factor model exhibits the highest variation of returns. Diagram 1

[4] Please note that the 3-portfolio in the setup in table 11 is not equivalent with the extreme portfolio in the previous table 9, which also contained results for the two extreme portfolios of the sample divided in three portfolios altogether, because the allocation in the multi-portfolio approach is different.

visually depicts the relation of the difference of the monthly abnormal mean stock returns (alpha) of banks in the HIGH minus the LOW portfolio, estimated by the time-series regressions of the four different multi-factor models specified in 3.1-1 to 3.1-4, in relation to the number of subgroups per portfolio.

Diagram III.1: Difference of the monthly mean abnormal stock returns between HIGH- and LOW portfolios in relation to the number of portfolios



The results in table 11 and diagram 1 suggest that the higher the spread between the banks in the HIGH and the LOW portfolio is, the higher is the reward of investing in the stocks of the banks with the best transparency, and concurrently, selling short the stocks of the banks with the poorest disclosure in the period from January 1995 to December 1995.

Next, I address the issue whether the higher monthly abnormal stock returns of the bank portfolios with better remuneration transparency coincide with lower responsiveness of their stock returns to the four risk price premiums. Similar to the case of the extreme HIGH-LOW portfolio (table 9), the differences of the HIGH and LOW market coefficients are small and, like the other risk price

coefficients, they are not significant on a conventional statistical level. Only the 10 portfolio setup represents an exception. Here the risk price coefficient for volatility and market are statistically significant. In the 10 portfolio setup, the HIGH portfolio comprises 58 banks with excellent disclosure proxies of 17.10 point and higher, the LOW portfolio contains 14 banks with bad transparency of equal or less than 1.90 points. Table 12 shows the results in detail.

In accordance with the conjectures in the theory section 2 earlier, in the 10-portfolio setup, the stock prices of the banks in the HIGH portfolio with disclosure proxies of 17.10 points or higher exhibit lower responsiveness and, hence, less volatility to the stock price variance of the portfolio and market returns in all four different multi-factor model specifications. The differences of the coefficients for the risk price of volatility (β_1) range between -0.75 and -1.02, statistically significant at the 1% level. However, the lower responsiveness does not derive from low volatility risk price coefficients of the banks in the HIGH portfolio. Those are ranging between 0.95 and 1.18, thus close to 1, meaning that the volatility of the banks' stocks in the HIGH portfolio vary according to the variance of the portfolio in case of the one-, three- and four- factor model, and to the variance of the world stock index in case of the four-factor market model. The effect results from the high volatility of the banks in the LOW portfolio. Their volatility risk price coefficients range from 1.70 to 2.20, statistically significant at the 1% level. Hence, the volatility of the stocks of those banks varies about twice as much as the variance of the portfolio and/or market returns do.

With regard to the momentum risk price coefficient and in rebuttal to the assumption in the theory part, however, the two differences of the momentum coefficient (β_4 in the equations 3.1.3 and 3.1.4) of the banks in the HIGH minus the LOW portfolio score positive with 0.56 in the case of the four-factor portfolio model and 0.59 in the case of the four-factor market model specification. Both estimates are statistically significant at the 1% level. These remarkably positive and significant momentum risk price coefficients might suggest that shareholders of banks that show excellent disclosure underreact to information more than those of banks with low transparency, because I assume that high momentum is based upon short-term underreaction. I have selected the time period of the publication of the annual report 2004 for the estimation of the momentum effect, thus deliberately trying to capture exactly the effect of the reaction of the shareholders to the comprehensive information about the nexus of the firm performance and the executive remuneration. Drilling deeper, however, the momentum risk price coefficients of the banks in the HIGH portfolio are close to 0 and thus indeed in accordance with the theoretical conjecture. The two momentum coefficients of the LOW portfolio are negative with -0.52 in case of the four-factor portfolio model and -0.57 in case of the four-factor market model. Both coefficients are statistically significant at the 1% level. In line with the above arguments in this particular model specification,

these negative values could imply that shareholders have been surprised positively or negatively by the content of the annual report and conversely changed the direction of the previous trend - although the disclosure of executive remuneration cannot be the root cause of that surprise, because as the low disclosure proxy points out, there is not much transparency to expect.

The results concerning volatility and momentum, however, emerge only in this particular, in terms of disclosure proxy spreads most extreme, 10 portfolio set up. Analyzing the other 2-9 portfolio setups, the regressions do generally not yield statistically significant differences of the risk price coefficients for the book-to-market *HML* (high-minus-low), size *SMB* (small-minus-big) and *Momentum* . With regard to the volatility coefficient *RMRF* (portfolio) and *RMSCIRF* (market), only the 3 and 4 portfolio setups yield statistically significant differences at the 10% level and at all four of the multi-factor specifications. In case of the four-factor market model, also the 2 portfolio setup scores a positive difference at the 10% significance level. The magnitude of the differences of the market price risk coefficients ranges from +0.28 to +0.18, epitomizing a rather small and not particularly noteworthy variation in volatility. Nonetheless, the portfolio setups with smaller spreads of disclosure quality indicate that shareholder activity of banks with good disclosure is somewhat higher than that of banks with below average transparency of executive remuneration.

Table III.12: The 10 portfolios setup. Difference of the abnormal mean monthly stock returns (alpha high-low) of the High minus the Low portfolio. The Low and High alphas represent the mean monthly change of the abnormal stock return of the 14 banks in the LOW portfolio with *bproxy* of 1.9 and less, and the 58 banks in the HIGH portfolio with *bproxies* of 171 and more. High-Low denotes the difference of the monthly abnormal returns of the banks in the HIGH minus the LOW portfolio. *Market*, *HML* (high-minus-low), *SMB* (small-minus-big) and *Momentum* are coefficients of the respective risk prices for volatility, size, book-to-market-cap and momentum. Coefficients and alphas are estimated in multivariate regressions of equations 3.1-1 to 3.1-4, controlled for the prices of risk of volatility in case of the one-factor model, in addition in case of the three-factor model of size and book-to-market cap, and in addition in case of the two four-factor models of momentum. The 142 observations represent the number of months used in regressions, viz. 11.8 years from January 1995 through December 2006

10 portfolio setups	**One-factor**			**Three-factor**			**Four-factor portfolio**			**Four-factor market**		
	High-Low	**Low**	**High**	**High-Low**	**Low**	**High**	**High-low**	**Low**	**High**	**High-low**	**Low**	**High**
Alpha	1.515* (0.659)	-1.105* (0.556)	0.410# (0.229)	1.900** (0.687)	-1.372* (0.582)	0.528* (0.239)	1.504* (0.685)	-1.008# (0.577)	0.497* (0.245)	1.217# (0.684)	-0.326 (0.638)	0.891** (0.300)
Market	**-0.757**** (0.174)	1.706** (0.147)	0.949** (0.061)	**-0.759**** (0.173)	1.706** (0.147)	0.948** (0.060)	**-0.750**** (0.169)	1.699** (0.143)	0.949** (0.061)	**-1.017**** (0.255)	2.195** (0.237)	1.178** (0.112)
HML				0.305 (0.221)	-0.220 (0.187)	0.085 (0.077)	0.220 (0.218)	-0.141 (0.184)	0.079 (0.078)	0.204 (0.221)	-0.110 (0.206)	0.094 (0.097)
SMB				-0.006 (0.277)	0.024 (0.235)	0.018 (0.096)	-0.010 (0.270)	0.027 (0.228)	0.018 (0.097)	-0.016 (0.273)	0.047 (0.255)	0.031 (0.120)
Momentum							**0.564**** (0.199)	-0.519** (0.168)	0.045 (0.071)	**0.588**** (0.202)	-0.573** (0.188)	0.015 (0.089)
Observations		142	142		142	142		142	142		142	142
R^2		0.49	0.64		0.50	0.64		0.53	0.65		0.41	0.45

significant at 10%; * significant at 5%; ** significant at 1%

5 Conclusion

In this analysis, I examine the hypothesis that better transparency of executive remuneration explains better stock performance proxied by the abnormal monthly stock returns. The absolute returns are controlled for the risk prices of stock volatility, size and book-to-market effects and potential short-term underreactions to information, i.e. the momentum effect. The theoretical concept states that, on the one hand, the comprehensive disclosure of the nexus of executive's pay and the company's performance induces better and contemporary accountability, resulting in better firm profitability and, eventually higher absolute stock performance. On the other hand, good transparency of the executive remuneration may create higher shareholder trust and commitment, generating lower responsiveness and stock price volatility with regard to the stock market, the different sizes and book-to-market ratios, and the short-time reactions towards information. Both effects, alternatively and/or concurrently, would eventually lead to higher abnormal stock returns.

I analyze and quantify the magnitude of executive remuneration disclosure of the world's 191 largest exchange-listed banks, using annual reports as the primary source of information, and the diverse disclosure rules in the 29 countries in which these banks are domiciled. Using an international sample of 29 countries with accordingly different currencies, risk free rates, stock markets and the like, a method for the detailed estimation of the monthly mean abnormal stock returns is developed. Four multi-factor CAPM models are construed and the monthly abnormal stock returns are estimated by multi-factor time-series regressions for the time period from January 1995 to December 2006 on a monthly base for each bank.

To investigate possible connections between the quality of executive remuneration and stock returns, I use time series-stock returns for the period 1995 to 2006, whereas the data on disclosure is available as of 2003 and/or 2004. Examination of annual reports for other years that were available showed that transparency levels remained about the same for the years before and after 2004. Corporate governance structures of firms, whereof the disclosure of the executive remuneration is a vital part, evolve relatively stable since 1990 (Gompers et al. 2001). Corporate governance systems are interrelated with the law paradigm and the market system of a country (La Porta et al. 1997, 1999, and part I of this thesis), both are persistent over long time periods. The form and content of annual reports of firms are generally constant and comparable over the years (Lang and Lundholm 2000). In conclusion, I conjecture that the essence of these arguments allows for a long-term study of the relationship of stock prices and the transparency of executive remuneration.

The evidence suggests that, first, the monthly mean abnormal stock returns of portfolios comprising banks with good disclosure of executive remuneration are higher than those of bank portfolios with low transparency. Second, the higher the spread of good and bad disclosure of executive remuneration is, the higher is the difference of the monthly abnormal stock returns of the banks portfolios. An investment strategy that buys the stocks of the portfolio with the banks exhibiting above-average disclosure and selling short the stocks of the portfolio with the banks showing below-average transparency would have yielded annually mean abnormal stock returns of strikingly high 7.12% to 9.0% annually, depending on which of the four estimation models is applied. These findings are robust to nine different portfolio setups, statistically significant predominantly at the 5% level and confirmed by all four multi-factor model specifications that were employed to estimate the abnormal returns. Thus, the results coincide with Gompers et al. (2001 and 2003), who find a 8.4% return in a similar approach with regard to provisions against good corporate governance. Third, with respect to the two risk price coefficients for book-to-market HML (high-minus-low) and size SMB (small-minus-big), the regressions of the portfolio setups do not generate significant results, indicating that in this sample and in this research setup, the differences in the size of the banks and the varying market evaluation of book equity do not show different shareholder behaviour. Fourth, with respect to market risk price factor, the portfolio setups with smaller spreads of disclosure quality indicate that shareholder activity of banks with good disclosure is somewhat higher than shareholder activity of banks with below-average transparency of executive remuneration. Fifth and contrastingly, considering the difference of the extreme portfolio of the banks with the very best disclosure versus the banks with the lowest disclosure, however, the stock volatility of the latter turns out to be much higher and thus consistent with the theory.

The strikingly large and statistically significant reward of abnormal monthly stock returns by investing in the stocks of bank portfolios with excellent and selling short stocks of bank portfolios with poor disclosure of executive remuneration might motivate to analyze open issues in future studies: Is this effect sustainable across other industries than finance institutions and or other, longer and or shorter time periods? Due to the high pricing errors of the monthly abnormal stock returns on an individual bank level, I have not been able to test for omitted variables and endogeneity. Other research setups might want to find a way to mitigate that problem and be able to test multivariate approaches.

CONCLUSIONS/EXECUTIVE SUMMARY

The first part of this thesis analyzes and quantifies the magnitude of executive remuneration disclosure of the world's 245 largest exchange-listed banks, using annual reports as the primary source of information, and the diverse disclosure rules in the 31 countries in which these banks are domiciled. Descriptive statistics suggests that banks located in common law countries have higher (more than three times in terms of the quantifying proxy) disclosure compared to banks in civil law countries. Banks in common law countries generally surpass country-level disclosure requirements, whereas those in countries with civil law tradition fall short. Using factor analysis and regression analysis, the evidence supports a statistically stronger relationship of disclosure quality with systemic determinants like law paradigm and type of financial system than with market size effects.

The second part addresses the question whether better disclosure of executive remuneration explains lower risk premiums demanded by investors and/or better stock performance. The evidence suggests that better disclosure significantly corresponds with and supports higher Sharpe ratios and higher Tobin's qs. With respect to price-earnings ratios, lower risk premiums - and thus higher price/earnings ratios - can be supported by better disclosure if a special gauging of the outlier is applied.

The third part hypothesizes that better disclosure supports higher abnormal stock returns controlled for the risk prices of volatility, size, book-to-market ratio and momentum. The evidence suggests that an investment strategy that buys the stocks of the half of the banks with above-average disclosure of executive remuneration and sells short the stocks of the half of the banks with below-average disclosure generates a (striking) 8.4% annually mean abnormal return between January 1995 and December 2006. The result is robust to varied portfolio compositions and different model specifications.

This thesis focuses on the largest banks of the world. With regard to financial institutions and in contrast to other fixed-assets dominated industries, the pithy saying is that at the end of each working day, the most important asset leaves the firm and re-enters it the next morning. Hence, future research might have to analyze whether these positive effects of good executive remuneration transparency on capital costs and stock performance withstand other industries.

Disclosure of executive remuneration is, principally, vital to the adoption of appropriately structured incentive contracts, in that it can manage the agency costs of the nexus of executives' performance and pay. Throughout the years that I have been working on this thesis, the issue of

disclosure of executive remuneration has remained an international cause célèbre, coinciding with growing public unease about the absolutely spiralling pay levels of CEOs that might have become dangerously delinked from performance. Concluding from this synopsis, the countries' regulators and security exchange commissions, shareholders and chief executives should be motivated to consciously vote for the enactment of rules and regulations as well as the execution of more comprehensive transparency of executive remuneration. Last but not least, CEOs should look at the comprehensive disclosure of their remuneration as an opportunity rather than a thread or obligation.

APPENDICES

Appendix 1: Legal system origins and antidirector rights of shareholders

English origin		**French origin**		**German origin**	
Australia	4	Belgium	0	Austria	2
Canada	4	Brazil	3	China	3
India	2	France	2	Germany	1
Ireland	3	Greece	1	Japan	3
Israel	3	Indonesia	2	South Korea	2
Malaysia	3	Italy	0	Switzerland	1
Singapore	3	Netherlands	2	Taiwan	3
South Africa	4	Portugal	2	**AVG:**	**2.1**
Thailand	3	Spain	2	**Scandinavian origin**	
UK	4	Turkey	2		
US	5	**AVG:**	**1.6**	Denmark	3
AVG:	**3.5**			Sweden	2
				AVG:	**2.5**
Islamic origin: Saudi Arabia 1					

Appendix 2: Country classification of market- versus bank-centered system

COUNTRY	Financial system	MARKET CAPITALIZATION	
		in million USD	in % of GNP
Australia	market	776,402.76	115.00%
Austria	bank	87,776.27	22.30%
Belgium	bank	211,000.00	81.00%
Brazil	bank	330,346.57	46.00%
Canada	market	1,177,517.65	102.50%
China	bank	1,308,000.00	78.10%
Denmark	market	155,232.61	55.70%
France	bank	2,441,261.38	76.40%
Germany	bank	1,194,516.79	44.90%
Greece	bank	121,921.39	59.90%
India	bank	363,276.02	42.50%
Indonesia	bank	73,250.64	22.50%
Ireland	market	114,085.90	55.90%
Israel	bank	90,157.87	62.60%
Italy	bank	789,562.62	41.90%
Japan	bank	5,844,000.00	114.20%
Malaysia	market	181,623.79	156.00%
Netherlands	market	494,160.00	92.00%
Portugal	bank	66,612.00	45.00%
Saudi Arabia	bank	306,000.00	82.00%
Singapore	market	217,617.78	190.00%
South Africa	market	442,525.47	163.10%
South Korea	market	389,473.36	48.50%
Spain	bank	940,672.88	86.60%
Sweden	market	376,781.08	96.10%
Switzerland	bank	826,040.81	227.50%
Taiwan	bank	441,435.78	132.50%
Thailand	bank	115,390.38	83.10%
Turkey	market	98,298.85	28.50%
UK	market	2,865,243.18	136.40%
USA	market	16,232,000.00	181.00%

Appendix 3: Total assets, book capital and pretax profit per country

COUNTRY	Number of listed banks	All banks (million USD)			Average per bank (million USD)		
		Total assets	Book capital	Pretax profits	Total assets	Book capital	Pretax profits
Australia	6	756,135	37,608	10,609	126,023	6,268	1,768
Austria	2	183,190	5,617	1,053	91,595	2,809	527
Belgium	3	1,262,255	40,810	6,761	420,752	13,603	2,254
Brazil	4	205,891	15,759	5,180	51,473	3,940	1,295
Canada	6	1,170,750	55,282	11,694	195,125	9,214	1,949
China	8	1,331,454	47,758	2,796	166,432	5,970	350
Denmark	2	328,129	10,825	2,341	164,065	5,413	1,171
France	3	2,775,556	109,289	20,822	925,185	36,430	6,941
Germany	8	2,837,482	76,129	-1,121	354,685	9,516	-140
Greece	5	169,422	10,715	1,703	33,884	2,143	341
India	5	109,478	4,957	1,855	21,896	991	371
Indonesia	2	45,209	2,910	1,202	22,605	1,455	601
Ireland	5	520,573	17,429	4,108	104,115	3,486	822
Israel	4	120,979	6,434	810	30,245	1,609	203
Italy	12	1,575,361	76,811	12,157	131,280	6,401	1,013
Japan	61	6,639,594	240,090	15,173	108,846	3,936	249
Malaysia	2	32,420	3,163	489	16,210	1,582	245
Netherlands	3	1,366,263	47,973	8,955	455,421	15,991	2,985
Portugal	3	173,233	9,653	1,377	57,744	3,218	459
Saudi Arabia	3	57,470	6,477	1,353	19,157	2,159	451
Singapore	3	210,218	16,054	2,509	70,073	5,351	836
South Africa	5	239,714	11,783	3,152	47,943	2,357	630
South Korea	6	472,509	17,689	632	78,752	2,948	105
Spain	5	941,868	48,679	12,254	188,374	9,736	2,451
Sweden	4	818,030	30,277	6,126	204,508	7,569	1,532
Switzerland	5	1,956,998	46,226	11,755	391,400	9,245	2,351
Taiwan	5	178,631	7,449	704	35,726	1,490	141
Thailand	3	83,681	5,506	889	27,894	1,835	296
Turkey	4	74,246	10,308	2,288	18,562	2,577	572
UK	11	4,399,072	192,883	40,519	399,916	17,535	3,684
USA	47	6,211,976	393,796	122,969	132,170	8,379	2,616
SUM	**245**	**37,247,787**	**1,606,339**	**311,850**	**5,092,050**	**205,153**	**38,855**

Appendix 4: Enactment of disclosure of top executive remuneration

	Form of legal Enactment	Date of enactment	Disclosure is	Disclosure period	Form of disclosure		Distribution of information	Disclosure of remuneration policy		Individual disclosure		Individ. disclosure of cash compensation		Disclosure of stock options	
Australia	listing rule	2001	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	no	0
Austria	law	n.a.	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	agg	1
Belgium	law	2001	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	no	0
Brazil	listing rule	2003	mandatory	annually	ar	2	agm	yes	1.5	no	0	no	0	agg	1
Canada	law	n.a.	mandatory	annually	sepr	3	sent	yes	1.5	yes	3	yes	2	yes	2
China	none	n.a.	none	none	none	0	none	no	0	no	0	no	0	no	0
Denmark	law	n.a.	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	agg	1
France	law	2002	mandatory	annually	ar	2	agm	no	0	yes	3	yes	2	yes	2
Germany	law	n.a.	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	no	0
Greece	law	n.a.	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	no	0
India	listing rule	n.a.	mandatory	annually	ar	2	agm	no	0	yes	3	yes	2	yes	2
Indonesia	none	n.a.	none	none	none	0	none	no	0	no	0	no	0	no	0
Ireland	listing rule	2005	mandatory	annually	ar	2	ar	yes	1.5	yes	3	yes	2	yes	2
Israel	none	n.a.	none	none	none	0	none	no	0	no	0	no	0	no	0
Italy	law	1999	mandatory	annually	ar	2	agm	no	0	yes	3	yes	2	yes	2
Japan	law	n.a.	mandatory	annually	ar	2	agm	yes	1.5	no	0	agg	1	agg	1
Malaysia	listing rule	2001	mandatory	annually	ar	2	agm	yes	1.5	voluntary	0	agg	1	yes	2
Netherlands	law	2002	mandatory	annually	ar	2	agm	yes	1.5	yes	3	yes	2	yes	2
Portugal	law	n.a.	mandatory	annually	sepr	3	agm	no	0	no	0	agg	1	no	0
Saudi Arabia	law	1995	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	no	0
Singapore	listing rule	n.a.	voluntary	none	none	0	none	no	0	no	0	no	0	no	0
South Africa	listing rule	2002	mandatory	annually	ar	2	agm	yes	1.5	yes	3	yes	2	yes	2
South Korea	none	n.a.	none	none	none	0	none	no	0	no	0	no	0	no	0
Spain	law	n.a.	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	agg	1
Sweden	binding annex	2002	mandatory	annually	ar	2	agm	yes	1.5	yes	3	yes	2	yes	2
Switzerland	listing rule	2002	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	yes	2
Taiwan	law	n.a.	mandatory	annually	ar	2	agm	no	0	no	0	agg	1	yes	2
Thailand	none	n.a.	none	none	none	0	none	no	0	no	0	no	0	no	0
Turkey	guideline	2003	voluntary	annually	none	0	none	no	0	no	0	no	0	no	0
UK	law	2002	mandatory	annually	sepr	3	sent	yes	1.5	yes	3	yes	2	yes	2
USA	law	1992	mandatory	annually	ar	2	sent	yes	1.5	yes	3	yes	2	yes	2

	DISCLOSURE OF								DISCLOSURE OF SHARE TRANSACTIONS OF				Disclosure of transactions to be reported to	SUM disclosure proxy
	long-term incentive plans		pensions		loans		non-monetary benefits		executives		related persons			
Australia	no	0	no	0	no	0	no	0	yes+ad hoc	1	yes+ad hoc	1	Australian Stock Exchange	5.0
Austria	no	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	financial authority	5.0
Belgium	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	3.0
Brazil	no	0	no	0	no	0	no	0	yes+ad hoc	1	yes+ad hoc	1	public	6.5
Canada	yes	1.5	yes	2	yes	1.5	yes	1.5	yes+ad hoc	1	no	0	public	19.0
China	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	0.0
Denmark	no	0	no	0	no	0	no	0	yes+ad hoc	1	yes+ad hoc	1	public	6.0
France	no	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	10.0
Germany	no	0	no	0	no	0	no	0	yes+ad hoc	1	yes+ad hoc	1	financial authority	5.0
Greece	no	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	4.0
India	yes	1.5	yes	2	yes	1.5	no	0	no	0	no	0	directors report to board only	14.0
Indonesia	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	0.0
Ireland	yes	1.5	yes	2	yes	1.5	yes	1.5	yes+ad hoc	1	yes+ad hoc	1	public	19.0
Israel	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	0.0
Italy	no	0	no	0	yes	1.5	yes	1.5	yes+ad hoc	1	no	0	public	13.0
Japan	no	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	6.5
Malaysia	yes	1.5	yes	2	yes	1.5	yes	1.5	yes+ad hoc	1	yes+ad hoc	1	stock exchange	15.0
Netherlands	rec	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	public	11.5
Portugal	no	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	5.0
Saudi Arabia	agg	0.5	agg	1	agg	0.5	agg	0.5	no	0	no	0	shareholders	5.5
Singapore	no	0	no	0	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	1.0
South Africa	yes	1.5	yes	2	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	15.0
South Korea	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	0.0
Spain	agg	0.5	agg	1	no	0	no	0	yes+ad hoc	1	no	0	stock exchange	6.5
Sweden	yes	1.5	yes	2	yes	1.5	no	0	yes+ad hoc	1	yes	0	public	16.5
Switzerland	no	0	no	0	yes	1.5	yes	1.5	yes+ad hoc	1	yes+ad hoc	1	not to be reported	10.0
Taiwan	no	0	yes	2	yes	1.5	yes	1.5	yes+ad hoc	1	yes+ad hoc	1	public	12.0
Thailand	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	0.0
Turkey	no	0	no	0	no	0	no	0	no	0	no	0	not to be reported	0.0
UK	yes	1.5	yes	2	voluntary	0	no	0	yes+ad hoc	1	yes+ad hoc	1	stock exchange	17.0
USA	yes	1.5	yes	2	yes	1.5	yes	1.5	yes+ad hoc	1	yes+ad hoc	1	public	19.0

Appendix 5: Country proxy, banks average proxy and deviation per country

COUNTRY	Country proxy	Banks average proxy	Deviation
USA	19.0	18.83	-0.17
Canada	19.0	18.50	-0.50
Ireland	19.0	17.80	-1.20
UK	17.0	16.86	-0.14
Sweden	16.5	15.88	-0.63
South Africa	15.0	12.30	-2.70
Malaysia	15.0	8.25	-6.75
India	14.0	5.90	-8.10
Italy	13.0	13.33	0.33
Taiwan	12.0	3.10	-8.90
Netherlands	11.5	17.33	5.83
France	10.0	12.67	2.67
Switzerland	10.0	8.30	-1.70
Spain	6.5	11.20	4.70
Japan	6.5	2.11	-4.30
Brazil	6.5	0.25	-6.25
Denmark	6.0	8.50	2.50
Saudi Arabia	5.5	4.17	-1.33
Australia	5.0	13.25	8.25
Austria	5.0	10.0	5.00
Germany	5.0	9.63	4.63
Portugal	5.0	8.67	3.67
Greece	4.0	3.30	-0.70
Belgium	3.0	9.50	6.50
Singapore	1.0	11.67	10.67
Thailand	0	13.83	13.83
Israel	0	8.50	8.50
China	0	2.19	2.19
Indonesia	0	1.50	1.50
Turkey	0	0.38	0.38
South Korea	0	0.00	0.00

Appendix 6: Data base for comparison of country versus banks proxy sorted by law system

COUNTRY	Country proxy	Banks proxy	Law origin	Number of Banks
Canada	19.00	18.50	common	6
Ireland	19.00	17.80	common	5
USA	19.00	18.83	common	47
UK	17.00	16.86	common	11
Malaysia	15.00	8.25	common	2
South Africa	15.00	12.30	common	5
India	14.00	5.90	common	5
Australia	5.00	13.25	common	6
Singapore	1.00	11.67	common	3
Israel	0.00	8.50	common	4
Thailand	0.00	13.83	common	3
Weighted average common	**15.04**	**15.69**	**common**	**97**
Sweden	16.50	15.88	civil	4
Italy	13.00	13.33	civil	12
Taiwan	12.00	3.10	civil	5
Netherlands	11.50	17.33	civil	3
France	10.00	12.67	civil	3
Switzerland	10.00	8.30	civil	5
Spain	6.50	11.20	civil	5
Brazil	6.50	0.25	civil	4
Japan	6.50	2.11	civil	61
Denmark	6.00	8.50	civil	2
Saudi Arabia	5.50	4.17	civil	3
Austria	5.00	10.00	civil	2
Germany	5.00	9.63	civil	8
Portugal	5.00	8.67	civil	3
Greece	4.00	3.30	civil	5
Belgium	3.00	9.50	civil	3
China	0.00	2.19	civil	8
Indonesia	0.00	1.50	civil	2
South Korea	0.00	0.00	civil	6
Turkey	0.00	0.38	civil	4
Weighted average civil	**6.34**	**5.06**	**civil**	**148**

Appendix 7: Remarks on disclosure enactment and corporate governance in Japan and Saudi Arabia

Japan

Kato and Katsuyuki (2003) estimates do not support that Japanese corporate governance is unusually defunct with regard to the significance and size of the sensitivity of CEO compensation to accounting profitability. On the other hand, to be consistent with the literature on Japanese corporate governance that tends to downplay the role of shareholders and stress the role of banks and employees, they find that stock market performance tends to play a less important role in the determination of Japanese CEO compensation. In short, the interests of shareholders are somewhat diluted in the Japanese corporate governance system as a result of the strong presence of the interests of other constituencies (e.g., debtholders and employees) in the Japanese corporate governance system. The diluted interests of shareholders in the Japanese corporate governance imply that the sensitivity of CEO pay to firm performance, in particular stock market performance, may be weakened in Japan.

Dow and McGuire (2004): In addition to the overall patterns of ownership and financing described above, keiretsu groupings play a critical role in the Japanese economy**.** There are six commonly recognized horizontal keiretsu: Mitsubishi, Mitsui, Sumitomo, Fuji, Sanwa, and Dai Ichi Kango. These long-standing historical relationships reinforce the in-group debt and equity holdings of keiretsu firms. The 16 ownership structure of firms is dominated by group holdings (the main bank and its affiliates), which range from 23%-42% (Gerlach (1992); Hoshi (1994)). Moreover, shares in keiretsu firms are less frequently traded and when traded, they are likely to be placed with a previous shareholder, usually a keiretsu member (Johnston and McAlevey (1998)).

Saudi Arabia

The Union of Arab Banks (2003) has conducted research on public listed companies in Saudi Arabia. The main conclusions are:

1. There is a high concentration in corporate ownership undermining the principles of good Corporate Governance.

2. Substantial family corporate holdings compose the bulk of ownership and control of companies.

3. Boards of directors are dominated by controlling shareholders, while friends and relatives constitute the board of directors in many instances.

4. There is rarely any separation between ownership and management. It is rare to find independent directors.

5. Corporate Governance is not a priority in most companies, which results in lack of transparency and disclosure, further resulting in nepotism and corruption.

Transparency and disclosure in Saudi Arabia (Nasser 2004): In the 1990s Saudi Arabia sought to restructure its economy through programs of liberalization, privatization, and diversification away from oil dependencies. A framework of modernization and reform is widening the scope for private sector participation in economic activity. The Saudi authorities prepared and issued a Capital Markets Law, which was solidified in 2003, through the creation of the Supreme Economic Council, and the Saudi Arabian General Investment Authority.

Listed companies are expected to report annually and quarterly about their financial statements and to set up audit committees. The monitoring and enforcement of reporting and the disclosure standards has been problematic due to the absence of a securities regulatory group primarily responsible for monitoring and overseeing disclosure. Disclosure is rarely done on a voluntary basis.

Appendix 8: Panel data set-adjusted P/E ratio of banks per country

COUNTRY	Number of banks	Country proxy	P/E country equity	Banks proxy	Average banks P/E	Average banks def.-adjusted P/E	L-T. Int. rate, 10y
Australia	6	5.00	17.23	13.25	11.40	11.40	5.77%
Austria	2	5.00	16.13	10.00	3.76	4.15	4.43%
Belgium	3	3.00	12.38	9.50	7.08	7.08	4.50%
Brazil	4	6.50	9.95	0.25	2.74	3.25	13.05%
Canada	6	19.00	20.84	18.50	7.78	7.87	5.18%
China	8	0.00	14.83	2.19	12.66	10.75	5.50%
Denmark	2	6.00	14.27	8.50	5.18	5.18	4.78%
France	3	10.00	14.67	12.67	4.84	4.90	4.50%
Germany	8	5.00	15.66	9.63	-0.93	6.92	4.50%
Greece	5	4.00	19.63	3.30	16.68	14.83	4.43%
India	5	14.00	19.59	5.90	4.47	5.82	7.00%
Indonesia	2	0.00	16.74	1.50	5.94	6.57	12.38%
Ireland	5	19.00	17.80	1.50	5.94	6.57	4.50%
Israel	4	0.00	n.a.	8.50	0.00	n.a.	7.00%
Italy	12	13.00	14.53	13.33	9.15	9.15	4.50%
Japan	61	6.50	42.39	2.11	6.12	13.52	1.42%
Malaysia	2	15.00	14.28	8.25	14.25	14.25	4.65%
Netherlands	3	11.50	17.46	17.33	7.17	7.76	4.33%
Portugal	3	5.00	15.79	8.67	15.50	15.50	4.43%
Saudi Arabia	3	5.50	n.a.	4.17	0.00	n.a.	7.00%
Singapore	3	1.00	12.84	11.67	7.68	8.75	3.62%
South Africa	5	15.00	10.61	12.30	9.38	8.28	11.48%
South Korea	6	0.00	10.86	0.00	542.60	7.76	5.24%
Spain	5	6.50	16.07	11.20	8.15	8.15	4.43%
Switzerland	5	10.00	18.30	7.80	7.82	8.00	3.01%
Sweden	4	16.50	15.73	15.88	6.57	6.57	4.81%
Taiwan	5	12.00	13.22	3.10	8.79	11.26	5.11%
Thailand	3	0.00	10.04	13.83	8.90	8.90	5.11%
Turkey	4	0.00	15.93	0.38	13.62	13.85	19.00%
UK	11	17.00	18.45	16.86	5.47	7.60	4.87%
USA	47	19.00	18.47	18.83	9.75	9.90	4.86%
SUM	**245**						
Unweighted mean		**8.06**	**16.33**	**8.74**	**24.79**	**8.78**	**5.98%**

Appendix 9: Determining the optimal momentum periods

To estimate momentum by the share price development at the lagging and formation period prior to June 2005, a momentum proxy is constructed. The difference of the share price from the end of the formation period to the start of the formation period in percent and the respective stock price difference in the lagging period are combined by multiplication if the price change of the formation and lagging period point in the same direction. The product of the stock price differences instead of the sum is chosen to achieve higher amplitudes when formation and lagging period exhibit price variation with the same skew.

If the price deviation of the formation and lagging period point in different directions then the momentum proxy is assessed as zero. If both formation and lagging period show negative price evolvement then the momentum proxy is defined as the negative absolute product of the respective price changes. In case both periods yield positive results, the momentum proxy is determined as the positive product of the particular price differences.

The different length of the formation and lagging period requires that the magnitude of price changes be adjusted accordingly. To take that effect into account, the momentum proxy will be divided by the respective sum of the number of months of the formation and lagging period. Thus it is possible to compare cleanly adjusted periods of price changes.

The results of the calculation are exhibited in the following table:

Price differ.	**formation 3**	
Price differ.	**lagging 3**	
proxy	**momentum**	4.14
Price differ.	**formation 6**	
Price differ.	**lagging 3**	
proxy	**momentum**	8.27
Price differ.	**formation 6**	
Price differ.	**lagging 6**	
proxy	**momentun**	13.17
Price differ.	**formation 9**	
Price differ.	**lagging 3**	
proxy	**momentum**	9.74
Price differ.	**formation 9**	
Price differ.	**lagging 6**	
proxy	**momentum**	34.09
Price differ.	**formation 9**	
Price differ.	**lagging 9**	
proxy	**momentum**	9.17
Price differ.	**formation 12**	
Price differ.	**lagging 3**	
proxy	**momentum**	6.30
Price differ.	**formation 12**	
Price differ.	**lagging 6**	
proxy	**momentum**	31.77
Price differ.	**formation 12**	
Price differ.	**lagging 9**	
proxy	**momentum**	16.70
Price differ.	**formation 12**	
Price differ.	**lagging 12**	
proxy	**momentum**	36.70

The highest momentum effect in stock prices of the 191 banks is at the formation period of 12 months and the following lagging period of 12 months also. The second and third highest momentum cases are with 9 months formation and 6 months lagging and, accordingly, 12 month formation and 6 month lagging. This study will continue to analyze the strongest momentum case of 12/12 months only.

REFERENCES

Abowd, John M. (1990): "Does Performance-Based Managerial Compensation Affect Corporate Performance?", *Industrial Labor Relation Review* 43/3, 52S-73S.

Aggarwal, Reena, Leora Klapper and Peter D. Wysocki (2005): "Portfolio Preferences of Foreign Institutional Investors", *Journal of Banking and Finance* 29/12, 2919-2946.

Allen, Franklin, Jun Qian and Meijun Qian (2004): "Law, Finance, and Economic Growth in China", ASX Australian Stock Exchange 0905, F3CA256F7100071C8F?OpenDocument&VIEW=compilations, on: http://www.asx.com.au/supervision/rules/index.htm.

Allen, Franklin, Jun Qian and Meijun Qian (2004): "Law, Finance, and Economic Growth in China", MIT OCW, Massachusetts Institute of Technology Open Courseware, February, on: http://ocw.mit.edu/NR/rdonlyres/Urban-Studies-and-Planning/11-946Spring2004/3A74E768-BD33-4105-A21C-4BD31EFEFFFC/0/feb_17.pdf.

American AFL-CIO (2005). The points for the disclosure proxy equal the annual report terms and methodology on: http://www.aflcio.org/corporatewatch/paywatch/ceou/ceou_terms.cfm, database: http://www.aflcio.org/corporatewatch/paywatch/ceou/database.cfm.

Amihud, Y. and H. Mendelson (1986): "Asset Pricing and the Bid-ask Spread", *Journal of Financial Economics* 17/2, 223-249.

Annin, Michael (1997): "Fama-French and Small Company Cost of Equity Calculations", *Business Valuation Review* 16/1.

Arshanapalli, Bala, Daniel T. Coggin and John Doukas (1998): "Multifactor Asset Pricing Analysis of International Value Investment Strategies", *Journal of Portfolio Management* 24/2, 10-23.

Badrinath, S.G. and Omesh Kini (1994): "The Relationship between Securities Yields, Firm Size, e/p ratios and Tobin's q", *Journal of Business Finance and Accounting* 21/1, 109-131.

Bai, Chong-En, Qiao Liu, Joe Lu, Frank M. Song and Junxi Zhang (2003): "Corporate Governance and Market Valuation in China", Faculty of Business and Economics, The University of Hong Kong, April 2002 (first version), April 2003 (revised version), on http://www.econ.hku.hk/ccfr/english/working_papers.htm.

Banks, E. (2004): *Corporate Governance: Financial Responsibility, Controls and Ethics*, New York: Palgrave MacMillan.

Banz, R.F. (1981): "The Relationship between Return and Market Value of Common Stocks", *Journal of Financial Economics* 9/1, 3-18.

Barry, C. and S. Brown (1985): "Differential Information and Security Market Equilibrium", *Journal of Financial and Quantitative Analysis* 20/4, 407-422.

Basu, Sudipta, Lee-Seok Hwang, Toshiaki Mitsudome and Joseph Weintrop (2007): "Corporate Governance, Top Executive Compensation and Firm Performance in Japan", *Pacific-Basin Finance Journal* 15/1, 56-79.

Bebchuk, Lucian and Jesse M. Fried (2004): *Pay Without Performance: The Unfulfilled Promise of Executive Compensation*, Cambridge, MA: Harvard University Press.

Beiner, Stefan., Wolfgang Drobetz, Markus M. Schmid and Heinz Zimmermann (2004): „Corporate Governance und Unternehmensbewertung in der Schweiz", WWZ Discussion Papers and WWZ Working Papers, Wirtschaftswissenschaftliches Zentrum, Universität Basel, on: http://www.wwz.unibas.ch/forum/volltexte/750.pdf.

Beiner, Stefan, Wolfgang Drobetz, Markus M. Schmidt and Heinz Zimmermann (2006): "An Integrated Framework of Corporate Governance and Firm Valuation", *European Financial Management* 12/2, 249-283.

Berle, Adolf A. and Gardiner C. Jr. Means (1932): *The Modern Corporation and Private Property*, New York: MacMillan.

Berton, Lee (1994): "Accounting Rule-Making Board's Proposal Draws Fire", *Wall Street Journal*, January 5.

Bhattacharya, Utpal and Hazem Daouk (2002): "The World Price of Insider Trading", *Journal of Finance* 57/1, 75-108.

Bhattacharya, Utpal and Hazem Daouk (2004): "When No Law is Better than a Good Law", *CEI Working Paper Series* 2004-10, Center for Economic Institutions, Institute of Economic Research, Hitotsubashi University, first version June.

Bhattacharya, Utpal, Hazem Daouk and Michael Welker (2001): "The World Price of Earnings Opacity", July, forthcoming *Accounting Review*, on: http://faculty.fuqua.duke.edu/~charvey/Teaching/BA456_2006/Bhattacharya_The_world_price.pdf.

Bhattacharya, Utpal, Neal Galpin and Bruce Haslem (2006): "The Home Court Advantage in International Corporate Litigation", *AFA 2006 Boston Meetings Paper*, August, American Finance Association, forthcoming *Journal of Law and Economics*, on: http://ssrn.com/abstract=509008.

Black, B.S., H. Jang and W. Kim (2005): "Does Corporate Governance Predict Firms' Market Values? Evidence from Korea", *ECGI Finance Working Paper* 103/2005, European Corporate Governance Institute, November, on: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=311275.

Black, E. (2001): "The Corporate Governance Behaviour and Market Value of Russian Firms", *Emerging Markets Review* 2/2, 89-108.

Black, F. and M. Scholes (1973): "The Pricing of Options and Corporate Liabilities", *Journal of Political Economy* 81/3, 637-654.

Bloomberg (2006): "Dividends on Phantom Shares", *Bloomberg Journal*, November/December.

Bollerslev, Z.T., R. Engle and J. Wooldrige (1988): "A Capital Asset Pricing Model with Time-varying Covariances", *Journal of Political Economy* 96/1, 116-131.

Botosan, Christine (1997): "Disclosure Level and the Cost of Equity Capital", *Accounting Review* 72/3, 323-349.

Botosan, Christine and Marlene Plumlee (2002): "A Re-examination of Disclosure Level and the Expected Cost of Equity Capital", *Accounting Research* 40/1, 21-40.

Botosan, Christine and Marlene Plumlee (2005): "Assessing Alternative Proxies for the Expected Risk Premium", *Accounting Review* 80/1, 21-53.

Botosan, Christine, Marlene Plumlee and Yuan Xie (2004): "The Role of Information Precision in Determining the Cost of Equity Capital", *Review of Accounting Studies* 9, 233-259.

Breeden, Douglas T. (1979): "An Intertemporal Asset Pricing Model with Stochastic Consumption and Investment Opportunities", *Journal of Financial Economics* 7/3, 265-296.

Burghof, Hans-Peter and Christian Hofmann (2004): "Disclosure of Board Remuneration in Large European Banks", *Corporate Ownership and Control* 1/2, 122-136.

Burghof, Hans-Peter and Matthias Johannsen (2006): "Good Versus Bad Earnings Management: Is Income Smoothing a Deliverance?", working paper, Universität Hohenheim, April.

Cahart, Mark M. (1997): "On Persistence in Mutual Fund Performance", *Journal of Finance* 52/1, 57-82.

Chan, Louis K.C., Narasimahm Jegadeesh and Josef Lakonishok (1996): "Momentum Strategies", *Journal of Finance* 51/5, 1681-1713.

Chui, Andy C.W., Sheridan Titman and K.C. John Wei (2000): "Momentum, Legal Systems and Ownership Structure: An Analysis of Asian Stock Markets", December, on: http://www.fin.ntu.edu.tw/~conference2002/proceding/4-1.pdf.

Citigroup (2004), annual report, on: http://www.citigroup.com.

Clarkson, P., J. Guedes and R. Thompson (1996): "On the Diversification, Observability and Measurement of Estimation Risk", *Journal of Financial and Quantitative Analysis* 31/1, 69-84.

Coffee, J. (1999): "The Future as History: the Prospects for Global Convergence in Corporate Governance and its Implications", *Northwestern University Law Review* 93, 641-707.

Conrad, Jennifer and Gautam Kaul (1998): "An Anatomy of Trading Strategies", *Review of Financial Studies* 11/3, 489-519.

Conyon, M. and J. Schwalbach (1999): "Corporate Governance, Executive Pay and Performance in Europe", in: J. Carpenter and D. Yermack (eds): *Executive Compensation and Shareholder Value*, 13-33, Dordrecht et al.: Kluwer.

Credit Agricole (2004), annual report, on: http://www.credit-agricole-sa.fr.

Daniel, Kent and Sheridan Titman (2005): "Testing Factor-model Explanations of Market Anomalies", unpublished working paper, July, The Kellogg School at Northwestern University and NBER, and The College of Business Administration, University of Texas, Austin and NBER, on: http://www.princeton.edu/~bcf/DanielPaper.pdf.

David, R. and J. Brierly (1985): *Major Legal Systems in the World Today*, London: Stevens and Sons.

Davis, James L. (2001): "Explaining Stock Returns: A Literature Survey", on: http://www.ifa.com/Library/Support/Articles/Scholarly/files/Explaining%20Stock%20Returns.pdf.

De Bondt, Werner F.M. and Richard H. Thaler (1985): "Does the Stock Market Overreact?", *Journal of Finance* 40/3, 793-805.

De Bondt, Werner F.M. and Richard H. Thaler (1987), "Further Evidence on Investor Overreaction and Stock Market Seasonality", *Journal of Finance* 42/3, 557-583.

Deutsche Bank (2004), annual report, on: http://geschaeftsbericht.deutsche-bank.de/2004/gb/briefdesvorstandssprechers.php.

Diamond, Douglas W. and Robert E. Verrecchia (1982): "Optimal Managerial Contracts and Equilibrium Security Prices", *Journal of Finance* 37/2, 275-287.

Diamond, Douglas W and Robert E. Verrecchia (1991): "Disclosure, Liquidity and the Cost of Capital", *Journal of Finance* 46/4, 1325-1359.

Dow, Sandra and Jean McGuire (2004): "When Do Owners Make a Difference? A Comparison of Market-centred versus Bank-centred Governance", on http://207.36.165.114/NewOrleans/Papers/1401391.pdf.

Drobetz, W., A. Schillhofer and H. Zimmermann (2003): "Corporate Governance and Expected Stock Returns: Evidence from Germany", WWZ Working Paper 2/03, Wirtschaftswissenschaftliches Zentrum, Universität Basel, January, on: http://www.wwz.unibas.ch/cofi/publications/papers/2003/02-03.pdf.

Dumas, B. and B. Solnik (1995): "The World Price of Foreign Exchange Risk", *Journal of Finance* 50/2, 445-479.

Easley, D. and M. O'Hara (2004): "Information and the Cost of Capital", *Journal of Finance* 59/4, 1553-1583.

Easley, D., Soeren Hvidkjaer and M. O'Hara (2002): "Is Information Risk a Determinant of Asset Returns?", *Journal of Finance* 57/5, 2185-2210.

Eisinger, Jesse (2005): "Follow the CEO money", *Wall Street Journal*, February 16, quoting the SEC chairman.

Erb, Claude, Campbell Harvey and Tadas Viskanta (1996): "Expected Returns and Volatility in 135 Countries", *Journal of Portfolio Management*, spring volume, 46-58.

Fama, Eugene F. and Kenneth R. French (1993): "Common Risk Factors in the Returns on Stocks and Bonds", *Journal of Financial Economics* 33/1, 3-56.

Fama, Eugene F. and Kenneth R. French (1994): "Industry Costs of Equity", *University of Chicago Working Paper* 396.

Fama, Eugene F. and Kenneth R. French (1996): "Multifactor Explanations of Asset Pricing Anomalies", *Journal of Finance* 51/1, 55-84.

Fama, Eugene F. and Kenneth R. French (1997): "Industry Costs of Equity", *Journal of Financial Economics* 43/2, 153-193.

Fattorusso, Jay, Rodion Skovoroda, Trevor Buck and Alistair Bruce (2007): "UK Executive Bonuses and Transparency - A Research Note", *British Journal of Industrial Relations* 45/3, 518-536.

Ferrarini, Guido and Niamh Moloney (2005): "Executive Remuneration in the EU: the Context for Reform", *ECGI Law Working Paper* 32/2005, European Corporate Governance Institute, April, on: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=715862.

Ferrarini, Guido, Niamh Moloney and Christana Vespro (2003): "Executive Remuneration in the EU: Comparative Law and Practice", *ECGI Law Working Paper* 9/2003, June, on: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=419120.

Ferrarini, Guido, Niamh Moloney and Christana Vespro (2004): "Governance Matters: Convergence in Law and Practice Across the EU Corporate Pay Faultline", *Journal of Corporate Law Studies* 4/2, 243-306.

Finer, S. (1997): *The History of Government*, vol. III, Cambridge, UK: Cambridge University Press.

Francis, Jennifer, Ryan LaFond, Per Olsson and Katherine Schipper (2003): "Accounting Anomalies and Information Uncertainty", *Faculty Research Paper* 04/113, Fuqua School of Business, Duke University, April, on:

https://www.fuquaworld.duke.edu/frp/jfrancis/Francis-et-al.--Anomalies-[April-2004].pdf.

Fudenberg, D. and J. Tirole (1991): *Game Theory*, Cambridge, MA: MIT-Press.

Gallagher, David R., Gavin Smith and Peter Swan (2005): "Do Mutual Fund Managers Monitor Executive Compensation?", draft version June 7, on http://wwwdocs.fce.unsw.edu.au/banking/seminar/Gallagher_Smith_Swan_WP1_2005.pdf

Gelos, Gaston and Shang-Jin Wei (2005): "Transparency and International Portfolio Holdings", *Journal of Finance* 60/6, 2987-3020.

Gerlach, Michael L. (1992): "The Japanese Corporate Network: a Blockmodel Analysis", *Administrative Science Quarterly* 37/1, 105-139.

Gilson, Ronald J. (2000): "The Globalization of Corporate Governance: Convergence of Form or Function", *Stanford Law and Economics Olin Working Paper* 192, May.

Girma, Sourafel, Steve Thompson and Peter W. Wright (2007): "Corporate Governance Reforms and Executive Compensation Determination: Evidence from the UK", *Manchester School* 75/1, 65-81.

Glazier, Donald (2007): "Change Is Here: The New SEC Disclosure Rules", *John Liner Review* 20/4.

Glosten, L. and P. Milgrom (1985): "Bid, Ask and Transactions Prices in a Specialist Model with Heterogeneously Informed Traders", *Journal of Financial Economics* 14/1, 71-100.

Gompers, Paul A., Joy L. Ishii and Andrew Metrick (2001): "Corporate Governance and Equity Prices", *Rodney L. White Centre for Financial Research Working Paper* 18-01, Wharton School, University of Pennsylvania, July, on: http://finance.wharton.upenn.edu/~rlwctr/papers/0118.pdf.

Gompers, Paul A., Joy L. Ishii and Andrew Metrick (2003): "Corporate Governance and Equity Prices", *Quarterly Journal of Economics* 118/1, 107-155.

Hail, Luzi and Christian Leuz (2005): "Cost of Capital and Cash Flow Effects of U.S. Cross-listings", *Weiss Center for International Financial Research Working Paper* 05-2, Wharton School, University of Pennsylvania, April, on http://finance.wharton.upenn.edu/weiss/wpapers/05-2.pdf.

Harvey, Campbell R. (1991): "The World Price of Covariance Risk", *Journal of Finance* 46/1, 111-157.

Harvey, Campbell R. (1995): "Predicable Risk and Returns in Emerging Markets", *Review of Financial Studies* 8/3, 773-816.

Haubrich, Joseph (1991): "Risk Aversion, Performance Pay, and the Principal-agent Problem", *Federal Reserve Bank of Cleveland Working Paper* 9118.

Hong, Harrison and Jeremy Stein (1999): "A Unified Theory of Underreaction, Momentum Trading, and Overreaction in Asset Markets", *Journal of Finance* 54/6, 2143-2184.

Hong, Harrison, Terence Lim and Jeremy C. Stein (2000): "Bad News Travel Slowly: Size, Analyst Coverage, and the Profitability of Momentum Strategies", *Journal of Finance* 55, 265-294.

Hoshi, Takeo (1994): "The Economic Role of Corporate Grouping and the Main Bank System", in: Masahiko Aoki and Ronald Dore (eds): *The Japanese Firm: The Source of Competitive Strength*, 285-309, Oxford, UK: Oxford University Press.

HSBC (2004), annual report, on: www.hsbc.com.

Hughes, John, Jing Liu and Jun Liu (2005): "Private Information, Diversification and Asset Pricing", Vienna Graduate School of Finance, Universität Wien, March, on http://www2.wu-wien.ac.at/ccefm/vgsf/activities/liu.pdf.

ICGN (2005), on: http://www.icgn.org/organisation/documents/cgp/revised_principles_jul2005.php.

Jegadeesh, Narasimhan (1990): "Evidence of Predictable Behavior of Security Returns", *Journal of Finance* 45/3, 881-898.

Jegadeesh, Narasimhan and Sheridan Titman (1993): "Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency", *Journal of Finance* 48/1, 65-91.

Jensen, Michael C. and William H. Meckling (1976): "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", *Journal of Financial Economics* 3/4, 305-360.

Jensen, Michael C. and Kevin J. Murphy (1998): "Performance Pay and Top Management Incentives", in: Michael C. Jensen (ed): *Foundations of Organizational Strategy*, Cambridge, MA: Harvard University Press.

Johnston, S. and L. McAlevey (1998): "Stable Shareholdings and Japan's Bubble Economy: a Historical Overview", *Strategic Management Journal* 19/11, 1101-1107.

Kaplan, Steven N. and Luigi Zingales (1997): "Do Investment-cash Flow Sensitivities Provide Useful Measures of Financing Constraints?", *Quarterly Journal of Economics* 112/1, 169-215.

Kato, Takao and Katsuyuki Kubo (2003): "CEO Compensation and Firm Performance in Japan", *CJEB Working Paper* 210, Center on Japanese Economy and Business, Columbia Business School, April, on: http://people.colgate.edu/tkato/ceopayjapan3.pdf.

Kato, Takao, and Katsuyuki Kubo (2006): "CEO Compensation and Firm Performance in Japan: Evidence from New Panel Data on Individual CEO Pay", *Journal of the Japanese and International Economies* 20/1, 1-19.

Kato, Takao, and Cheryl Long (2006): "Executive Compensation, Firm Performance, and Corporate Governance in China: Evidence from Firms Listed in the Shanghai and Shenzhen Stock Exchanges", *Economic Development and Cultural Change* 54/4, 945-984.

Kato, Takao, Woochan Kim and Ju Ho Lee (2005): "Executive Compensation, Firm Performance, and Chaebols in Korea: Evidence from New Panel Data", *IZA Discussion Paper* 1783, Forschungsinstitut zur Zukunft der Arbeit, September, on: http://ftp.iza.org/dp1783.pdf.

Kato, Takao, Woochan Kim and Ju Ho Lee (2007): "Executive Compensation, Firm Performance, and Chaebols in Korea", *Pacific-Basin Finance Journal* 15/1, 36-55.

Klapper, L.F. and I. Love (2004): "Corporate Governance, Investor Protection and Performance in Emerging Markets", *Journal of Corporate Finance* 10/5, 703-728.

Kutta, Prajit K. and Roy Radner (1994): "Optimal Principal Agent Contracts for a Class of Incentive Schemes", *Economic Theory* 4/4, 483-503.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (1997): "Legal Determinants of External Finance", *Journal of Finance* 52/3, 1131-1150.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (1998): "Corporate Ownership around the World", *NBER Working Paper* 6625, National Bureau of Economic Research, June.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (1999a): "The Quality of Government", *Journal of Law, Economics and Organization* 15/1, 222-279.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (1999b): "Investor Protection: Origins, Consequences, Reform", *World Bank Financial Sector Discussion Paper* 1, September, on: http://www1.worldbank.org/finance/assets/images/Fs01_web1.pdf.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrej Shleifer and Robert W. Vishny (1999c): "Corporate Ownership Around the World", *Journal of Finance* 54/2, 471-517.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (2000): "Investor Protection and Corporate Governance", *Journal of Financial Economics* 58/1-2, 3-27.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (2002): "Investor Protection and Corporate Valuation", *Journal of Finance* 57/3, 1147–1170.

Lang, Larry H.P. and Rene M. Stulz (1994): "Tobin's q, Corporate Diversification, and Firm Performance", *Journal of Political Economy* 102/6, 1248-1280.

Lang, M. and R. Lundholm (1993): "Cross-sectional Determinants of Analyst Ratings of Corporate Disclosures", *Journal of Accounting Research* 31/2, 246-271.

Lang, M. and R. Lundholm (2000): "Voluntary Disclosure and Equity Offerings: Reducing Information Asymmetry or Hyping the Stock?", *Contemporary Accounting Research* 17/4, 623-662.

Leuz, Christian, Karl V. Lins and Francis E. Warnock (2005): "Do Foreigners Invest Less in Poorly Governed Firms?", *NBER Working Paper* 12222, National Bureau of Economic Research, November, on http://home.business.utah.edu/finkvl/LeuzLinsWarnockNov2005.pdf.

Lewellen, J., S. Nagel and J. Shanken (2006): "A Skeptical Appraisal of Asset-pricing Tests", *NBER Working Paper* 12360, National Bureau of Economic Research, July.

Lombardo, Davide and Marco Pagano (1999): "Law and Equity Market: a Simple Model", *CSEF Working Paper* 25*,* Centre for Studies in Economics and Finance, University of Salerno, October.

Lombardo, Davide and Marco Pagano (2000): "Legal Determinants of the Return on Equity", *CSEF Working Paper* 24*,* Centre for Studies in Economics and Finance, University of Salerno, November, on: http://www.csef.it/WP/wp24.pdf.

Mahoney, Paul G. (2001): "The Common Law and Economic Growth: Hayek Might Be right", *Journal of Legal Studies* 30/2, 503-525.

McKinsey (2002), on http://www.mckinsey.com/clientservice/organizationleadership/service/corpgovernance/pdf/GlobalInvestorOpinionSurvey2002.pdf.

Milken Institute (2003), capital access index, on: http://cas.uah.edu/halltw/Finance%20454/cai_2003.pdf.

Mitton, Todd (2002): "A Cross-firm Analysis of the Impact of Corporate Governance on the East Asian Financial Crisis", *Journal of Financial Economics* 64/2, 215–241.

Mizuho (2004), annual report, on: http://www.mizuho-fg.co.jp/english/investors/financial/annual/ar2004_mhfg.html.

Mookherjee, Dilip (1984): "Optimal Incentive Schemes with Many Agents", *Review of Economic Studies*, 51/3, 433-446.

MTFG (2004), annual report, on: http://www.mtfg.co.jp/english.

Nasser, Saidi (2004): "Corporate Governance in MENA countries", on: http://www.gcgf.org/ifcext/cgf.nsf/AttachmentsByTitle/MENA_Forum_Transparency_Disclosure_Saidi_Dec_2004/$FILE/Transparency_and_Disclosure.pdf.

OECD (2004): "OECD Principles of Corporate Governance", draft revised text, January.

Penman, Stephan H. (2001): *Financial Statement Analysis and Security Valuation*, chapter 16, international edition 2001, New York: McGraw-Hill Books.

Perfect, Steven B. and Kenneth W. Wiles (1994): "Alternative Constructions of Tobin's q: an Empirical Comparison", *Journal of Empirical Finance* 1/3-4, 313-341.

Phalippou, Ludovic (2007): "Can Risk-Based Theories Explain the Value Premium?" *Review of Finance* 11/2, 143-166.

Rajan, Raghuram G. and Luigi Zingales (2003): "Banks and Markets: the Changing Character of European Finance", January, on: http://www.sync-relations.at/2004/dl/Rajan%20and%20Zingales_Banks%20and%20Markets.pdf.

Romano, R. (2001): "Less is More: Making Institutional Investor Activism a Valuable Mechanism of Corporate Governance", *Yale Journal on Regulation* 18/2, 174-252.

Ross, Stephan A. (1976): "The Arbitrage Theory of Capital Asset Pricing", *Journal of Economic Theory* 13/3, 341-360.

Rouwenhorst, Geert K. (1998): „International Momentum Strategies", *Journal of Finance* 53/1, 267-284.

Sharpe, William F. (1964): "Capital Asset Prices: a Theory of Market Equilibrium under Conditions of Risk", *Journal of Finance* 19/3, 425-442.

Sharpe, William F. (1994): "The Sharpe ratio", *The Journal of Portfolio Management* 21, 49-58.

Sharpe, William F., Gordon J. Alexander and Jeffrey V. Bailey (1995): *Investments*, p. 261 ff., 5th edition, Englewood Cliffs, NJ: Prentice Hall.

SMFG (2004), annual report, on: http://www.smbc.co.jp.

Stanko, Brian and Thomas Zeller (2003): *Understanding Corporate Annual Reports: a User's Guide*, John Wiley and Sons 2003.

Tadesse, Solomon (2002): "Financial Architecture and Economic Performance: International Evidence", *Journal of Financial Intermediation* 11/4, 429-454.

The Banker, July 2004, Top 1.000 World Banks, 211-243.

The Banker, July 2005, Top 1.000 World Banks.

Tobin, James (1969): "A General Equilibrium Approach to Monetary Theory", *Journal of Money, Credit and Banking* 1/1, 15-29.

Tobin, James (1978): "Monetary Policies and the Economy: the Transmission Mechanism", *Southern Economic Journal* 44/3, 421-431.

Verrecchia, R. (2001): "Essays on Disclosure", *Journal of Accounting and Economics* 32/1-3, 97-180.

UBS (2004), annual report, on: http://www.ubs.com.

Union of Arab Banks (2003), report.

Wallace, James (1997): "Adopting Residual Income-Based Compensation Plans: Do You Get What You Pay For?", *Journal of Accounting and Economics* 24/3, 275-300.

Wu, P.-S. and J.-S. Chiou (2007): „Multivariate Test of Sharpe-Lintner CAPM with Time-varying Beta", *Applied Financial Economic Letters* 3/5, 335-341.

Zhou, Xianming (1999): "Executive Compensation and Managerial Incentives", *Journal of Corporate Finance* 5/3, 277-301.

Zhou, Xianming and Peter L. Swan (2003): "Performance Thresholds in Managerial Incentive Contracts", *Journal of Business* 76/4, 665-696.

CURRICULUM VITAE

Name:	Max Schott
Geburtsdatum:	7. Mai 1964 in Stuttgart
Wohnort:	Buchfinkenweg 12, 70563 Stuttgart
Eltern:	Sigrun Schott (geb. Gruber) Hermann Schott (verstorben)
Staatsangehörigkeit:	Deutsch
Familienstand:	Verheiratet, 2 Kinder
Beruflicher Werdegang:	Abitur Sommer 1983
	Sommer 1983 bis Sommer 1985 Ausbildung zum Bankkaufmann bei der Hypo-Bank Stuttgart Abschluss: Bankkaufmann
	Sommer 1985 bis Ende 1990 Studium der Betriebswirtschaftslehre in Mannheim und Toronto, Kanada Abschluss: Diplomkaufmann
	Januar 1991 bis Ende 1992 Unternehmensberater bei der Firma McKinsey & Co.
	Seit 1992 Geschäftsführender Gesellschafter bei der Schott GmbH & Co. KG
	Seit Juli 1994 Geschäftsführender Gesellschafter bei der Sand und Schott GmbH
	Seit 15. Oktober 2007 Geschäftsführender Gesellschafter bei der Smart-invest GmbH

Stuttgart, im März 2008