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Abhandlungen

Rethinking Remuneration Laws for the Financial Sector

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Abstract

Excessive risk-taking in the banking industry has led to the default of firms and to increased systemic risks as demonstrated during the previous financial crisis. The causes of this excessive risk taking are numerous and complex. However, it is now consensus that inappropriate remuneration structures can contribute to excessive risk taking. Substantial parts of the financial sector CEOs' variable compensations has a short-term focus and are not risk adjusted as empirical surveys have shown. Such remuneration structures persist in the aftermath of the crisis as part of the finance industry's remuneration culture. This, however, is inefficient from a risk perspective and thus triggers the need for a remuneration regulation. With the entrenchment of the Directives for the European Union in December 2010 and the implementation into national laws, e.g. Germany, UK and France, the remuneration focus substantially shifted to a more long-term perspective. Our analysis shows the reform efforts to aim in the right direction. However, the methodology for and the measurement of "success" should be revised. Due to different regulations in different European countries there is danger of regulatory arbitrage. Additionally, the new remuneration laws are given in the form of general principles leaving room for interpretation. Efficient regulation should ensure remuneration policies and structures to be aligned with an effective risk management. The financial authorities should therefore closely observe the market development in this perspective and take countermeasures if necessary. Furthermore, an elimination of existing regulatory flaws in national laws is needed. (K33, G30, G38, J33)

Zusammenfassung

Überdenken der Vergütungsvorschriften für den Finanzsektor

Übertriebene Risikobereitschaft der Banken hat zu Zahlungsausfällen von Unternehmen und gestiegenen systemischen Risiken geführt, wie z.B. während der Finanz- und Wirtschaftskrise geschehen. Ursachen für diese übermäßige Risikobereitschaft sind vielschichtig und komplex. Jedoch besteht Konsens darin, dass unpassende Vergütungsstrukturen zu erhöhter Risikobereitschaft beitragen. Empirische Studien haben gezeigt, dass wesentliche Teile der variablen Vergütung von Spitzenmanagern auf kurzfristige Orientierung ausgerichtet sind und keine

Risikoanpassung aufweisen. Solche Vergütungsstrukturen gehören auch in Zeiten nach der Finanzkrise immer noch zum Teil der Vergütungskultur vieler Unternehmen. Diese sind jedoch aus der Risikoperspektive heraus ineffizient und bedürfen einer grundlegenden Regulierung der Vergütungsstrukturen. Mit der Verankerung der Richtlinien für Europäische Union im Dezember 2010 und der Implementierung in nationales Recht z.B. in Deutschland, im Vereinigten Königreich und Frankreich wurde der Vergütungsfokus hin zu einer langfristigeren Perspektive verschoben. Unsere Analyse zeigt, dass die Reformbemühungen zwar in die richtige Richtung zielen, die Methodik und Messung des Erfolgs jedoch noch überarbeitet werden sollte. Aufgrund der verschiedenen Vorschriften in verschiedenen europäischen Ländern besteht die Gefahr von Regulierungsarbitrage. Außerdem bieten die neuen Vergütungsgesetze, die oft sehr allgemein formuliert sind, Raum für Interpretationen. Effiziente Regulierung sollte sicherstellen, dass Vergütungspraktiken- und Strukturen auf ein wirksames Risikomanagement ausgerichtet werden. Die Finanzbehörden sollten deshalb die Marktentwicklung in dieser Hinsicht genau beobachten und wenn erforderlich Gegenmaßnahmen einleiten. Schließlich ist es notwendig Regulierungslücken in den nationalen Gesetzen zu beseitigen. (K33, G30, G38, J33)

I. Implementation of New Remuneration Laws

Excessive risk-taking in the banking system was one reason for the financial crisis of 2007–10. Although a causal link between remuneration practices and the financial crisis cannot be proven directly,[1] it is now consensus among both regulators and professionals that inappropriate remuneration structures of CEOs significantly contributed to losses at major firms as well as to the severity and duration of the last financial crisis (*FSA* (2009a, 2009b)). In substantial parts of the banking system variable compensation is short-term focused and is not risk-adjusted. Moreover, these kinds of compensation structures persist due the fact that parts of the highly paid market of the banking system is constrained by pressures on the labour market.

Additionally, empirical evidence from the last financial crisis shows that control systems in banks have failed to deal with the risks caused by inappropriate managerial incentives (*FSA*, 2009a). In several cases, control mechanisms have struggled to cope with the complexity of risks and the methods which are used by risk takers in banks. With increasing complexity in organisations' structures, the principle agent problem may occur on different levels of the firm. Indeed, this multiple principle agent

[1] Other issues such as over-ambitious investing strategies, blind reliance on risk assessment by rating agencies or herd-like behaviour might have played an even more important role in the last crisis (*FSA* (2009a)).

problem is an issue which extends beyond the question of remuneration practices. On the other hand, there is an observable trend in the last decade that remuneration structures have created stronger incentives for senior bank managers to take excessive risks, as this behaviour has led to higher profits for the banks when successful. Due to these two trends failure of control mechanisms and strong incentives for risk taking, it is necessary to directly regulate remuneration practices in order to avoid future crises.

In order to combat the undesirable developments in executive compensation and to reduce the risk of future financial crises, the Financial Stability board (FSB) developed the "Principles for Sound Compensation Practices" at April 2009's London G20 summit, followed in September 2009 by the "Principles for Sound Compensation Practices – Implementation Standards". These standards are particularly aimed at adjusting the remuneration focus to the long-term success of a corporation and to take the risks of compensation contracts adequately into account. The G20 communiqué forced national authorities to introduce these standards as a matter of urgency (*Ben Shlomo* et al. (2013)).

Based on the FSB Principles from 2009 the European Parliament revised the existing Directives 2006/48/EC and 2006/49/EC regarding supervisory review of compensation practices and developed the new Directives 2010/76/EU, which was published on December, 2010. Almost simultaneously, European countries renewed or upgraded the national remuneration standards and implemented new national laws. In this article we predominantly focus on the Directives 2010/76/EU of the European Union and the new regulations in the three important countries France, Germany and the United Kingdom.

One of the first countries implementing new regulations for the financial sector was France. Even before the G20 summit the French Banking Federation (FBF) signed the "Common Guidelines on the Compensation of Financial Market Professionals" which apply to all employees in the banks. Since then, the French government has supplemented the existing "Regulation 97-02, relating to internal control in credit institutions and investment firms" with the new European guidelines several times; the latest amendment used for the subsequent analysis is dated on December 2010 (Selected French banking and financial regulations, 2012). The German Institute Remuneration Act (Instituts-Vergütungsverordnung – InstitutsVergV) emerged from the German Banking Act (Kreditwesengesetz) Section 25a paragraph 5 and applies to all executives and staff members inside credit institutions and financial service institutes. It contains minimum requirements on compensation policies in the banking system and should prevent incentives to take disproportionately high risks. In contrast to other national laws the regulations of the German Institute Remuneration Act distinguishes between normal institutes and systemically relevant institutes. The new laws have been in effect since October 2010 (*Bundesgesetzblatt* (2010); *Buscher* (2011); *Ben Shlomo* et al. (2013)). The Financial Service Authority (FSA) in United Kingdom renewed the Remuneration Code 19A in December 2010 that replaces the Remuneration Code 19. The subsequent research refers to the Handbook of the FSA, SYSC (Senior Management Arrangements, Systems and Controls) 19A Remuneration Code, Release 113, from May, 2011. The new Remuneration Code 19A has been in force since January, 2011 and applies to a BIPRU firm (banks, building societies and investment firms) as well as to a third country firm, if activities are in relation to an establishment in the United Kingdom (SYSC, 19A.1.1 paragraph 1 and 2; *Ben Shlomo* et al (2013)). Before we turn our attention on the European reform measures in chapter 4, we discuss in chapter 2 whether a market failure exists. In chapter 3 the problem of moral hazard is discussed theoretically.

II. Market Failure Analysis

If we want to set new laws for remuneration policies in the financial industry, it is necessary to consider at the first step whether there is a market failure[2] related to remuneration structures. In case of market failure, we need to analyse whether and in which way regulatory interventions in the market mechanisms in form of a remuneration law can help to overcome this market failure.[3]

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[2] Market failure in this sense means that the existing remuneration structures can lead to an inefficient risk allocation in the society and the market mechanisms are not capable to address this problem.

[3] Even though regulation can help to avoid inefficiencies caused by market failure, we need to be clear that regulation has its own limits. Serious moral hazards may arise when regulation is imposed; and regulation may impose a wide range of costs which are not considered in the discussion.

1. Short-Term Orientation of CEOs and Institutional Shareholders

Bolton et al. (2006) analyse in a multi-period agency model managers' incentives when stock price can differ from their fundamental value for a certain period of time. They show that optimal compensation structures may emphasize the short-term performance of stocks, at the expense of long-term fundamental value. In this case, managers may have a strong incentive to pursue actions which increase the speculative component of the stock price rather than the fundamental and sustainable one. Some institutional shareholders such as hedge funds or private equities often have short investment horizons so that they might be more interested in higher stock prices in the short-term.[4]

A survey of 401 CFOs in US-listed companies by *Graham* et al. (2005) shows that there is indeed a trade-off between the long-term goal to maximize firm value and the short-term goal to meet or exceed certain earnings targets. *Graham* et al. (2005) find that more than three-fourths of the surveyed executives would give up long-term economic value in exchange for smoother earnings trend. These managers argue that missing earnings targets or strong volatile earnings would reduce the predictability of earnings, which in turn leads to lower stock prices because volatile earnings mean higher uncertainty for investors and analysts. Thus, it is a rational strategy for managers to achieve short-term earning targets or to smooth short-term earnings trend instead of striving for long-term economic value as their bonuses and equity-based compensation depend strongly on short-term stock performance (see *Mergenthaler* et al. (2008)).

Higher short-term profits lead to higher bonus payments for the CEOs, whereas these bonus payments cannot be negative in case of failure. Therefore, possible losses are borne mostly by long-term shareholders and society, but only to a small extent by the manager and short-term shareholders. In this sense, existing remuneration practices are drivers for short-term excessive risk-taking and can lead to negative externalities as CEOs do not fully consider the potentially negative consequences of their behaviour. On a firm level, there have been numerous examples

[4] *Bushee* (1998) shows that firms where institutional investors have a high portfolio turnover tend to focus less on long-term investments, and *Bushee* (2001) demonstrates that institutional investors with a short-investment horizon do place undue weight on near-term expected earnings.

in the last decade (Bear Stearns, Lehman Brothers etc.) where excessive risk-taking by individual CEOs has led to substantial losses for the shareholders and other stakeholders of the firm. On an economy-wide level, it is obvious that during the last financial crisis the banking sector has caused extremely high costs to the society due to numerous bank assistance programs around the world.

Obviously, there are conflicts of interest between long-term shareholders/society and the CEOs (decision makers) (*Jensen/Murphy* (1990); *Bebchuk/Fried* (2006)). Table 1 demonstrate an example for these conflicts of interests by using the payoff matrix in a game situation. In this game the two players (CEO 1 and CEO 2) have to decide whether they should emphasize on short-term or long-term goals for the firm. From the view of long-term shareholders and the society, it would be optimal if both CEOs chose the long-term orientation. However, independently of the behaviour of CEO 2 it is reasonable for CEO 1 to pursue the short-term orientation as he can improve his payoff. Due to the symmetry of the game, it is further rational for CEO 2 to pursue the short-term orientation too. Therefore, both players have a dominant strategy.[5] This leads to a stable Nash-equilibrium (Table 1) in the quadrant on the left hand on the top with a socially unsatisfactory overall result (3 : 3).

Table 1

Socially Inefficient Outcome of Risk-Taking[6]

		CEO 2			
		Short-term orientation		Long-term orientation	
CEO 1	Short-term orientation		3		0
		3		8	
	Long-term orientation		8		5
		0		5	

[5] In the context of game theory, a strategy is dominant for a player if it is always the best strategy, no matters which strategies his counterparts (the other players) will choose.

[6] The numbers of the payoffs are purely fictional. They should only represent the dilemma.

From this example, we can see that individually rational behaviour – here to take advantage of short-term orientation can lead to a socially inefficient risk-taking due to the short-term orientation. But can a CEO acting in an individually rationally way be blamed for his behaviour? As long as the political and regulatory framework does not remove the defects of the compensation practices, no one can be insinuated for a violation of the system. It shall be the intention of regulatory interventions to create a framework in which individually rational behaviour results in a socially desired outcome. This economically efficient result can not be achieved under the given lack of regulation.[7]

The socially inefficient outcome of risk-taking shown in Table 1 is the economic rationale of regulation due to systemic reasons. From the macroeconomic point of view, regulation is needed if the social costs of failure of financial institutions, particularly banks, exceed private costs and such potential social costs are not incorporated in the decision making of the firm. Therefore, banks may be induced into more risky behaviour than they would if all risks (including those for the system as a whole) were incorporated in their pricing. It is obvious that banks play an essential role in the economy: they are the only source of finance for a large number of borrowers and much more importantly they manage the payments system. If the banking system is collapsing, that will lead to more serious damages for the entire economy than it would be the case with other sectors.

The key systemic issue is that banks are in general subject to runs which may cause contagious effects. The externality is that the failure of an insolvent bank can cause depositors of other banks to withdraw deposits. As a result, a solvent institution can become insolvent because a large proportion of bank assets are not easily marketable and because a panic may drive down the current value of those assets which are marketable. Due to the externalities that bank managers do not take in account the possible consequences of their risk taking for other banks and the entire economy, regulation for systemic reasons is warranted.

[7] *Myerson* (2010), *Hurwicz/Maskin/Myerson* received the Nobel Prize 2007 in economics for the development of the mechanism-design theory. They deal with the measure how to create incentives for a desirable overall result if individuals follow their own interests.

2. Competition in the Labour Market

As we saw from the example in table 1, individually optimal decisions by the CEOs can lead to a socially inefficient risk-taking. But the question is: Can this result be avoided by the mechanisms on labour market? In case of bankruptcy the bank managers will loose their jobs so that they should have an incentive to pursue long-term orientation and to minimize the risk of bankruptcy. Furthermore, the long-term shareholders should have a strong interest for the long-term orientation of their managers so that they can introduce remuneration policies which are aligned with long-term goals. Why can't these market mechanisms lead to a long-term orientation of the managers?

Observation of labour markets shows that the banking industry (e.g. in investment banking) is partially highly competitive due to highly mobile bank managers (*FSA* (2009a)). Remuneration structures with short-term orientation and non-risk adjusted goals are the standard in this part of the labour market. Most banks use short-term profits to measure the performance of their employees. Many investment banks take only net revenue and then determine the bonus payments.[8] If a bank introduces remuneration policies which take into account the risks taken and have a stronger focus on long-term incentives, it may have a substantial "first-mover disadvantage", as it can loose its key managers to competitors.

According to the observation of the FSA (*FSA* (2009a)), some major banks in the UK have changed their remuneration policies towards more risk adjustment and longer-term incentives due to their negative experience in the last financial crisis. Nevertheless, it is questionable whether this new practice will be accepted across the banking sector and whether this new remuneration policy will be sustainable in the next economic upturn as the competition on the labour market will increase. Therefore, remuneration standards set by laws for the whole financial sector will remove the risk of key managers moving to competitors as all firms have to introduce the long-term remuneration standards. This argument emphasizes also the key issue that long-term remuneration practices should be implemented consistently at the international level. Thus, achieving international agreement on mechanisms to ensure all major supervisory

[8] However, the use of unadjusted revenue is a poor method to measure performance since it doesn't take into account the risks taken and can create an incentive for managers to consider insufficiently the quality of the business undertaken.

authorities apply the principles in the same manner is an essential step in order to avoid regulatory arbitrage between nations.

3. Conflicts of Interest and Responsibilities

As described above, remuneration contracts are often aligned in a way that measures short-term success and thus give an incentive to take disproportionately high risks under the principle of limited liability. The target of regulation policy is therefore to offer incentives which would put a CEO into the position of pursuing a sustainable and successful business policy, rather than focusing on short-term profits. The CEO has so far been rewarded for taking enormous risks with high premiums, while not fearing any negative consequences in the case of failure, as long as the presumption of limited liability holds. Instead, a CEO is dismissed and therefore receives generous pay-outs.

The optimal solution from a social perspective would be a retrospective compensation payment at the end of working life. This has the advantage that success achieved by a CEO is best measured in the long-term and can be correspondingly rewarded. This approach would hardly be practicable however, since the CEO is dependent on regular payments for his cost of living. A sensible and for both sides acceptable solution could be found in temporal grading of the payments which should be orientated toward lasting performance criteria, a proposal that is discussed in chapter 4.2.

As a basic principle, the executive board or the supervisory board should negotiate the financial interests independently and establish an independent committee for the compensation scheme with the CEOs. The Financial Stability board substantiates that: "Financial institutions should have a board remuneration committee […] [that] should be constructed in a way that enables it to exercise competent and independent judgement on compensation policies" (*FSB* (2009)). This negotiation which is independent and based on a common financial interest is called: "arm's length bargaining" (*Bebchuk/Fried* (2006)) and regarded as a common model during the contract negotiations between the executive board and the executing managers. A compensation contract of a CEO shall therefore be aligned with interests of shareholders and honoured with a performance-based remuneration.

But how far the salary negotiations between CEO and executive board are really independent and aligned toward shareholders' interests must be seriously doubted. Empirical studies show that CEOs can influence their own salary by insider information (*Cicero* (2009); *Bebchuk* et al. (2010)). Supervisory boards and executive boards are often too busy or lack the necessary information about whether the CEO acts according to the equity holders. The power of a CEO increases within large boards as one individual will feel less responsible or in boards where directors serve on multiple boards because they might be less focussed on the affairs of one company. Although the executive board as well as the management should represent the interests of the shareholders, it is apparent that the asymmetric information and the regulation structures of the last years are not sufficient to ensure acting in terms of the shareholders' interests (*Bebchuk/Fried* (2006)).

III. Theoretical Model of Moral Hazard Behaviour[9]

Variable compensation plans are a first approach to designing individual rational behaviour to be socially profitable as well. As described at the outset, the present payment contracts are often aligned so that they measure short-term success. Under the principle of limited liability, they create incentives to take disproportionately high risks. The target of regulation policy is to offer incentives that bring CEOs into the position to pursue a sustainable and successful business policy, rather than focusing on short-term profits.

In this chapter, the incentive structures of a CEO are theoretically analysed. The focus will be on a discussion about the trade-off of short-term profits and long-term success. Therefore the model of *Myerson* (2010) is modified by being adapted especially to the difficulties of the CEOs pursuing short-term profits. We assume that a CEO has the choice between two possible alternatives:

- On the one hand, he can invest in a good and lasting project with a high success probability α. Good and lasting projects could for example be characterised by investments in research, knowledge and development.
- On the other hand, he can choose a bad project that maximises short-term profits. These projects have a lower probability β of success. An

[9] This chapter is published in most parts in: "Qualitative Research in Financial Markets", Regulation of Remuneration Policy in the Financial Sector – Evaluation of Recent Reforms in Europe, *Ben Shlomo* et al. (2013).

example for a bad project is the fall of Lehman Brothers. *Bebchuk* (2010) examined the connection between the decline of Lehman Brothers and Bear Stearns and the compensation mechanisms of the CEOs. The result is a positive connection between compensation practice and the profit situation of banks. Within the years 2000–2008, the top five executives of Bear Stearns and Lehman Brothers received an average salary of over 200 million dollars each which were allocated for the most part (approx. 80%) in the form of shares. The system error is impressively reflected in the development of the share price: While Lehman's top executives sold their stocks in time, the price has fallen since the bankruptcy declaration in September 2008 and is nowadays a penny stock (at the beginning of 2006 the stocks reached a share price over $300). Due to the disposal of their stocks in a timely manner, the executives were not liable and escaped their responsibility.

All successful projects produce a return r_{t+1}, but are different in the probability of success $\alpha > \beta$. The compensation practices of many CEOs which provide performance-based bonus payments in the form of shares or stock option packages often create undesirable incentives as shown in the initial example of Lehman Brothers. So it can be profitable for the agent to concentrate on a short-term business policy to achieve a short-time beneficial effect on the stock price. If the CEO invests in a short-term project, he can increase his income by γ. As a result the good project becomes a bad project with the success probability β. Since we assume that a CEO has only limited liability for losses, projects with a low success probability β will be chosen, if

(1) $$\gamma + \beta r_{t+1} > 1 + \rho,$$

with the risk free interest ρ (*Myerson* 2010). This inequality means that the manager will only choose bad and short-term projects, if the sum of the additional return γ and the return on investment in short-term projects are larger than a conservative investment with risk free interest. From inequality (1) $\gamma + \beta r_{t+1} > 1 + \rho$, we can conclude, that projects with a low success probability β are only chosen if the additional return γ, which the CEO can achieve by a short-term profit orientation is sufficiently high measured at risk free interest.

As previously mentioned, the remuneration of a CEO is composed by a fixed remuneration x and a variable, performance-based payment b. Because the manager will certainly get the fixed remuneration x in any circumstance, we concentrate on the variable, performance-based payment b at time $t+1$. In order to avoid moral hazard behaviour of the manager, the bonus payment b which is triggered by an investment in a sustainable business project with the success probability α must be at least as large as the sum of the share of the additional return γ (dependent on the project size h that determines the sphere of influence of the CEO) and the profit by investment in short-term projects $\beta\, b$. The moral hazard condition therefore is

$$\alpha b \geq h\gamma + \beta b. \tag{2}$$

From equation (2), we can derive the minimal amount of a bonus payment which is necessary to avoid moral hazard behaviour of the manager:

$$b \geq \frac{h\gamma}{\alpha - \beta}. \tag{3}$$

With this result, we come to the moral hazard factor

$$B = \frac{\gamma}{\alpha - \beta}. \tag{4}$$

The moral hazard factor B equals the additional return γ divides by the probability that a lasting project succeeds minus the probability that a short-term project succeeds ($\alpha - \beta$). The variable income of the CEO $b = h\ B$ can be interpreted as a moral hazard rent. This is the minimal amount which a CEO must receive at least depending on the size of his sphere of influence h to have an incentive for positive and lasting economic activity. Therefore, it is important that the bonus payment is sufficiently large.

Equation (3) $b \geq \frac{h\gamma}{\alpha - \beta}$ implies that the critical variable income of the CEO b shall depend positively on the sphere of influence or the project size h. It means the larger the responsibilities of the manager, the higher the bonus payment should be in order to prevent moral hazard behaviour. This implies that an efficient regulation of remuneration cannot use a certain amount as a maximum (e.g. 500.000 Euro per year) for bonus payments, as it was discussed in public debates in the last years. This amount should be a variable depending on the sphere of influence that the manager has in the firm. From equation (3), we can conclude: the bigger the success probability α for a lasting project, the smaller the success probability β and the additional return γ for a short-term project, the lower the incentive for moral hazard behaviour.

The optimal solution from a social perspective would be a retrospective compensation payment at the end of working life. This has the advantage that success achieved by a CEO/manager is best measured in the long-term and can be correspondingly rewarded. This approach would hardly be practicable however, since the CEO is dependent on regular payments for his cost of living. A sensible and for both sides acceptable solution could be found in temporal grading of the payments which should be orientated toward lasting performance criteria. A CEO who is hired at a time t and invests in sustainable projects all of his working n years shall get in the next n years of his career the amount b_i with ($i = 1, \ldots, n$), if his performance in year i is sufficiently good (with the probability of α_i). The present value of variable compensation payments for the CEO must be larger than the moral hazard rent $h_t B$:

(5) $$\sum_{i=1}^{n} \frac{\alpha_i b_i}{(1+\rho)^i} \geq h_t B = h_t \frac{\gamma}{\alpha - \beta}.$$

From equation (5) we can conclude that the present value of bonus payments during the working period n must be at least as large as the moral hazard rent from the short-term project. As the bonus payment for a long-term project now depends on the success probability of α_i for each year in the future, the annual bonus payments b_i must be sufficiently large in order to avoid moral hazard behaviour. Another possibility is to limit the short-time beneficial effect γ.

IV. Evaluation of European Remuneration Reforms

1. Performance Measurement

In the literature there is a broad discussion about the how to measure the personal performance success of a manager and especially if the manager is really paid for his own contribution to the firm's success. Different studies reveal that in practice there is no clear correlation between pay and performance. *Bebchuk/Fried* (2006) observed this correlation in the 70s and 90s and hardly could find any relation. This finding is supported by *Bertrand/Mullainathan* (2001). In the examination of different shock situations they concluded that a CEO is paid in equal shares for a lucky success as for an ordinary success.[10] Further support comes from *Murphy* (1999) who investigated the relative success between cash compensations and firm-performance within the years 1970–1996. The result: no clear correlation between cash bonus and manager performance. A survey over a 50 year long time period from *Jensen/Murphy* (1990) confirmed that manager compensation is hardly reflected in firm's success. Therefore the remuneration of 2500 managers in 1400 firms where measured. In another investigation *Jensen/Murphy (2010)* screened the 250 largest companies, resulting, that a change of the firm's value by \$1,000 is reflected by an adaptation of the CEOs compensation of only \$0.067. This outcome uncovers that CEOs' payments only depend marginally on the firms success which dissents the principle of performance based payment. Another study by *Shaw/Zhang* (2010) reveals that CEOs' compensation payments are not cancelled or shortened ex post, if a manager contributes to a negative firm performance. Finally, *Blanchard* et al. (1994) examined several firms which were pleased about unexpected profits with the result that CEOs instead investing the money in the firm or paying the shareholders a dividend they rather retained the unexpected profits.

Based on these empirical findings, section 7 of the EU Directives announces that Remuneration policy should aim to align the personal objectives of staff members (Directives, section 7). The German Institutes Remuneration Act claims that the personal distribution of the CEO should be taken into account when measuring the variable compensation payments. Furthermore, the individual success contribution should include non-financial parameters, such as compliance with internal sets of rules and strategies or customer satisfaction as well as suitable qualification (Bundesgesetzblatt, Section 5 paragraph 2, 2010). The Remuneration Code in the United Kingdom classifies performance-related remuneration in three measures: first, the assessment of performance should be individual, second, concerned to the business unit and third, to the overall results of the firm (SYSC, 19A.3.36 paragraph 1). Similarly the French Regulation 97-02 defines: "that a substantial proportion of compensation is variable and paid on the basis of individual, business-unit and firm-wide criteria and indicators that adequately measure performance." (Regulation 97-02, Article 31-4 section 1). Equivalent to the German In-

[10] A success is called a lucky success if a change of the firm's performance takes place beyond the sphere of influence of the CEO. Hence for a lucky success which is observable for the shareholders they are not willing to pay a bonus.

stitutes Remuneration Act, the UKs' Remuneration Code divides individual performance into financial and non-financial criteria, which is given a dominant part in the performance-based compensation and it should even override measurements of financial performance (SYSC, 19A.3.36 paragraph 2 and 19A.3.37 paragraph 1). Apart from the French Regulation 97-02, both national Remuneration Codes in Germany and the UK argue towards non-performance-based criteria and propose it for a contribution to a long-term success. Nevertheless it should be considered whether it would make sense to include further sustainability criteria in the law, like trust in the public attention or ecological sustainability. As a restriction one has to say that these soft criteria open up room for interpretation and causing measurement difficulties.

2. Bonus Deferment

As mentioned above the temporal grading could be one criteria towards long-term performance orientation. To ensure the long-term success of the company, there is a broad consensus that a timely grading of the stock option transfer should be launched (*Deutsche Bundesbank* (2009); *Bebchuk/Fried* (2010a); *Bebchuk/Fried* (2010b)). Therefore, senior managers should not sell their share packages immediately after receiving them. To avoid the CEO's disadvantage, *Bebchuk/Fried* (2010) claim that the sale of shares that cover the incidental taxes should still be permitted. More precisely, *Bebchuk/Fried* (2010a) argue that after allowing for any cashing out necessary to pay any taxes arising from vesting, equity-based awards should be subject to grant-based limitations on unwinding that allow them to be unwound only gradually, beginning some time after vesting. Furthermore, all equity-based awards should be subject to aggregate limitations on unwinding. Thus in each year an CEO may unwind no more than a specified percentage of his equity incentives when it is not subject to grant-based limitations on unwinding at the beginning of the year. To sum up it would make sense to combine a certain holding period with a complete limitation of stock sales. CEOs may therefore sell a certain percentage of their shares only after the expiry of a particular deadline, e.g. every two years (*Bebchuk/Fried* (2010a); *Ben Shlomo* et al. (2013)).

The Remuneration Code 19A states clearly that "a firm must ensure that payments related to early termination of a contract reflect performance over time and are designed in a way that does not reward failure"

(SYSC, 19A.3.45). The principle of early termination is qualified in further sections of the Remuneration Code. Like the UK's law, the European Directive and the German Institute Remuneration Act also features the difficulties of short-term profit orientation by CEOs and proposes a retention period from at least three to five years provided for the variable components of remuneration (Bundesgesetzblatt, Section 5 paragraph 4; EU Directives, section 7; SYSC, 19A.3.49; Regulation 97-02 Article 31-4 section 3).

The Directives of the EU assert that the proportion to be deferred should be from 40% up to 60% of variable remuneration components. But it remains superficial in segmenting the margin while only stating that the proportion should increase significantly with the level of seniority or responsibility of the person remunerated (Directives, section 9). Compared to the EU Directives, the deferment regulations in the German Institute Remuneration Act only apply for systemically relevant institutions. Further, the German law distinguishes between members of the management and other staff members. The former must retain at least 60% of the variable compensation components while the latter have to defer at least 40% of the variable compensation. In addition, negative contribution to firm's success should reduce the variable compensations payments. (Bundesgesetzblatt, Section 5 paragraph 4 and 6). In contrast the Remuneration Code 19A confirms the share of 40% and 60% respectively, but further strengthens temporal grading. Thus the 60% deferral apply to an amount greater than £500 000, or in case an executive officer is "significant in terms of its size, internal organisation and nature, scope and complexity of its activities" (SYSC 19A.3.49 paragraph 3, 4 and 5). The French Regulation 97-02 states that "a substantial proportion of such variable compensations, that may be not under 40% and shall be at least equal to 60%" (Regulation 97-02 Article 31-4 section 3). More precisely, at least 50% of the variable compensation should be in "form of shares, equity-linked instruments or index-linked instruments that create incentive aligned with long-term value creation" (Regulation 97-02 Article 31-4 section 4). Finally, Article-3 and Article 31-4 section 5 reports that variable compensation should be reduced significantly when losses are reported. Summarising, all national laws contain a holding periods for variable compensation of at least three years, where at least 40% of variable compensation must be retained and more or less precisely defined, failure should reduce variable compensation.

3. *Market Manipulation*

Empirical studies support the suspicion of the manipulation at transaction of stock options. *Cicero* (2009) reveals that CEOs manipulate stock prices by backdating the exercise dates of to stock grants to increase their own profits. *Bebchuk* et al. (2010) confirm this behaviour of taking advantage of insider information and manipulation. In the time period between 1996 and 2005 they inspected share prices on the day when stock options were granted and showed that outstandingly many stock options were allocated on days of low prices while only a few transactions were made on days of high stock prices. Thereby CEOs purchased the shares usually 10% below the average share price of the corresponding month. This anomaly suggests a specific timing which was carried out by illegal backdating of option grants.

Furthermore, the data imposes that the probability for a favourable grant of an option was higher if board members and management received their performance-based options on the same day (*Bebchuk* et al. (2010)). The uncovered irregularities prove that managers exploit the information edge to their own favour. Although the infringements declined slightly since the implementation of the Sarbanes-Oxley Act (SOX) in 2002, the data certify the thesis that managers with a big sphere of influence still have to much room for manipulation. Therefore both option assignments as well as sales of shares shall be announced in advance and be allowed only on publicly announced dates. Consequentially arbitrary timing and backdating of transactions can be prevented (*Bebchuk/Fried* (2010a); *Bebchuk* et al. (2010)). Executives should be prohibited from hedging in derivatives or other protection instruments with a great leverage (*Bebchuk/Fried* (2010a)). This postulation serves to limit the opportunistic behaviour of managers and simultaneously supports a stabilisation of the financial markets.

The prohibition of hedging claimed by *Bebchuk/Fried* (2010a) that can induce market manipulation can be found in the European Directives and additionally in the laws of UK and France. The Directives of the EU claim in section 11 that "credit institutions and investment firms should require their staff to undertake not to use personal hedging strategies or insurance to undermine the risk alignment effects embedded in their remuneration arrangements" (Directives, 2010). Section 19A.3.30 of UK's law and Article 31-4 of the French Regulation clearly prohibit the use of personal hedging strategies: "Supervised institutions shall prohibit their employees from using personal hedging strategies or compensation- and liability-related insurance to undermine the risk alignment effects embedded in their compensation arrangements" (Regulation 97-02, Article 31-4). Section 3 paragraph 8 of the German Institute Remuneration Act states that the risk alignment of the compensation should not be restricted by hedging strategies. In spite of the fact that the prohibition of hedging is incorporated in the national laws the claims for the announcement of option assignments and sales of shares in advance are disregarded. This finding keeps room for personal speculation and does not prevent the identified problem for manipulation (backdating) of option grants.

4. Procyclical Risk-Taking Behaviour

Chen et al. (2006) investigate in their empirical study the link between option-based executive compensation and market measures of risk for a sample of 68 banks involving 70 CEOs during the period from 1992 to 2000. They show that following deregulation in the banking sector during the last decades, banks have increasingly used stock option-based compensation for their executives. This structure of executive compensation led to extensive risk-taking behaviour by bank managers. Also the level of option-based 'wealth' of CEOs has a positive impact on risk taking. It means that a higher level of stock-option wealth is associated with higher firm risk and vice versa. These empirical results point to a procyclical risk-taking behaviour by executives in the banking industry (*FSA* (2009a)).

The discussed procyclical risk-taking behaviour by decision-makers can be explained by behavioural economics approach. Behavioural economists believe that individuals are not completely rational with regard to risks and chances. They tend to rely more on recent events or success. On the other hand, unlikely adversary events are not taken into account sufficiently. As a result, the low-probability, high-severity events might not be appropriately considered even though they are crucial for the existence of the bank. In booming markets with no recent negative events, managers tend to take more risks, as they underestimate low-probability, high-severity events systematically. During market downturns with more negative events, this mechanism will work in the opposite direction and bank managers potentially take less risks at the expense of long-term success (*FSA* (2009a)).

According to behavioural economics, the procyclical risk-taking by managers can be intensified by herding behaviour. It can be a rational and comfortable strategy for managers to take the same actions as other players in the market. In case of bad performance, managers can 'hide in the herd' because in this case the whole market performs badly. Otherwise, manager can 'ride the herd' in booming markets (*FSA* (2009a)). Compensation policies which are determined by peer performance might enforce this herding behaviour among managers. Therefore, remuneration laws should create incentives for managers to take a longer-term orientation and a risk-based perspective and can help to mitigate the behavioural issues leading to excessive risk-taking in boom markets.

The Directives of the EU have general statements to limit risk-taking behaviour. According to the UKs' Remuneration Code "a firm must establish, implement and maintain remuneration policies, procedures and practices that are consistent with and promote sound and effective risk management" (SYSC, 19A.2.1). The aim of the Remuneration Code is to ensure that firms have risk-focused remuneration policies, which are consistent with and promote effective risk management and do not expose them to excessive risk. A similar rule can be found in the German institute Remuneration Act. According to Bundesgesetzblatt, Section 3 paragraph 3, a remuneration policy is risk adequate, if the incentives for extensive risk-taking are avoided. The French "Regulation 97-02" has implemented the extra chapter "risk and result measuring systems" (Regulation 97-02, Article 17 to 31-4) to take the consideration of risk in compensation policy into account. All investigated national laws have implemented regulations to avoid excessive risk-taking behaviour. Since excessive risk-taking is hard to measure, the remuneration laws are here rather vague defined. Thus it remains to be seen if these requirements are sufficient and aim the goal.

5. *Expertise of Remuneration Committees*

Remuneration committees that assist the company boards should work in the interests of the long-term shareholders and set remuneration policies with appropriate long-term incentives. In reality, as *Bebchuk/Fried* (2003) find out in their study, there is no reason to believe that this automatically happens in practice. Just as there is no reason to expect that managers automatically seek to maximize the shareholder value, there is also no reason to presume that committee members will either as their behaviour is subject to a principal agency problem too. This in turn weakens their ability to solve effectively the principal agency problems in the relationship between managers and shareholders. Moreover, pressure by short-term institutional shareholders such as hedge fond or private equity to pursue a short-term orientation might also affect the board members' decisions.

A current survey by *FSA* (2009a) in the UK finds that remuneration committees are generally not involved in remuneration policies for employees below the top management level. In some cases, the members of remuneration committees don't even have the appropriate expertise. An efficient and effective remuneration regulation should therefore clarify the scope of the responsibilities for remuneration committees and ensure their independence and competence. In combination with a framework how remuneration structures should be set, this will also improve the quality of remuneration policies.

The Directives of the EU assert that credit institutions and investment firms should be required to establish a remuneration committee, if the institutes are significant in terms of their size (EU Directives section 5). The UK's Remuneration Code requires that a remuneration committee "must be constituted in a way that enables it to exercise competent and independent judgment on remuneration policies and practices and the incentives created for managing risk, capital and liquidity" (SYSC 19A.3.12 section 2). Furthermore, employees engaged in control functions should be "independent from the business units they oversee" (SYSC 19A.3.14) According to the German Remuneration a remuneration committee should be established in important institutes[11]. This remuneration committee should meet at least once in a year and must submit a remuneration report. The Committee is composed of not only employees from the human resource department, but also from marketing and controlling. (*Bundesgesetzblatt*, Section 6 paragraph 1 to 3), There are no special requirements for the qualifications of committee's members in the German law. As the law says, only the important institutes should establish a remuneration committee so that this requirement is not valid for other institutes. The French "Regulation 97-02" demands that the decision-taking body shall constitute a remuneration committee. The committee members should be independent and competent to analyse compensation policies and practices in the light of all relevant criteria,

[11] A bank is an important institute, if its average balance-sheet total in the last 3 years is greater than 10 billions euro.

including the institution's risk policy. Similar to the German law this committee shall conduct an annual review of the compensation policy (Regulation 97-02, Article 38-4). To sum up, all laws include an establishment of a remuneration committee, whereas the tasks are not always defined precise enough.

6. *Market Transparency*

A further suggestion for reform lies in the critical examination of compensation packages which need to become more transparent. To ensure fair and transparent executive compensation, a monetisation as well as a disclosure of the varieties of compensation are necessary. The varieties of compensation should vary from fixed salary payments to variable bonus systems up to other privileges, like social benefits such as pensions or severance pay at early retirement.

Section 21 of the EU Directives argues that "good governance structures, transparency and disclosure are essential for sound remuneration policies" and further that "credit institutions and investment firms should disclose detailed information on their remuneration policies" (*Directives* (2010)). Section 7 and 8 of the German Institute Remuneration Act directs new disclosure regulations. Particularly publicly available information about the remuneration is taken into account. In section 7 paragraph 1 and 2 fixed and variable compensation payments are supposed to be published at least once per year on the corporations' homepage (*Bundesgesetzblatt*, Section 7). In line with the German law, the French "Regulation 97-02" Article 43-2 state that supervised institutions shall publish information "annually, in a manner and to an extent that is suited to their size and their internal organisation as well as to the nature, scope and complexity of their activities. To this end, they shall determine the appropriate medium or location and shall endeavour to provide all disclosures in one medium or location" (Regulation 97-02, Article 43-2). In contrast to a public transparency the Remuneration Code in the UK places greater emphasis on supervisory function and internal control (19A.3.10-12). In Section 19A.3.11 the British law states that the remuneration policy must be subject to at least annually central and independent review. The

The EU directives as well as the German and UK' law are a step in the right direction. However, firstly as discussed above the path to a more transparent remuneration system is different in the national statutes. On the one hand the law in the UK focuses on the supervisory and internal control mechanisms, on the other hand Germany's priority is on public disclosure. In our opinion a sound and transparent remuneration disclosure must be a mixture of both internal and external control. Second, the demand to monetise all additional payments, like social benefits are not followed up in the regulations. As the additional job package such as pensions or severance pay plays an important role in the remuneration negotiations, therefore further adaptation in the law should be essential. Otherwise if parts of the compensation are not element of the published remuneration policy a tendency towards avoiding the disclosure rules persists.

The investigated European regulations are summarized in Table 2.

Table 2

Overview of European Remuneration Laws

regulation	**EU**	**Germany**	**UK**	**France**
personal objectives	✓	✓*	✓	✓
non-financial criteria	×	✓*	✓	×
holding period at least 3 years	✓	✓*	✓	✓
retention	✓	✓*	✓	✓
reduction at failure	✓	✓*	✓	✓
prohibition of personal hedging	✓	✓	✓	✓
sales announce in advance	×	×	×	×
promotion of effective risk management	✓	✓	✓	✓
remuneration committee	✓	✓*	✓	✓
transparency and disclosure	✓	✓	×	✓

Note: The regulations in the German law marked with a * only apply to significant firms (average balance sheet in the last three years 10 billion Euro).

V. Concluding Remarks

With the new Directives for the European Union in December 2010, and the implementation into national laws in Germany (Institutes Remuneration Act in Germany, October 2010), the United Kingdom (Remuneration Code 19A, January 2011) and France (Regulations 97-02, amendment December 2010) a substantial step toward regulating remuneration structures has been undertaken. As the previous analysis shows the reform efforts are altogether aimed in the right direction. However, some regulation criteria like measuring the success, as well as their methodology have to be revised. The evaluation of the national laws revealed many similarities but also some differences, e.g. how to uncover non-transparency and assure disclosure. In our opinion, a combination of the UK's method of internal control mechanisms and France and Germany's public disclosure standards are best to ensure sound disclosures. The theoretical model reveals that the variable compensation b must depend on the sphere of influence h of a CEO. Thus it is not reasonable to limit the payments to a certain amount as often claimed in public debates. To ensure a reduction in the short-term incentives of a CEO the introduction of the retention period is necessary to lower the additional margin γ for short-term projects. And thus achieve a reduction of the moral hazard rent.

In contrast to our analysis, the literature also provides findings that do not identify market failure with negative externalities created by remuneration structures. For example, there are studies where banks' remuneration structures did not significantly contribute to the financial crisis. (*Beltratti/Stulz* (2012); *Pathan* (2009); *Fahlenbrach/Stulz* (2011)). Therefore it is questionable whether or not there are alternatives to tightening the regulation structures, as remuneration laws are a heavy intervention into bargaining rights. One alternative could be tying remuneration to banks' CDS spreads in order to risk adjust the payments (*Bolton* et al. (2011)). All regulations have their limits and overregulation can lead to contradictory results. Thus, *Dittmann* et al. (2011) claim that restrictions on CEO compensation can have unintended consequences, such as higher rewards for mediocre performance. Furthermore, our analysis shows that there are different regulations among different countries which provide incentives for regulatory arbitrage.

To sum up, we can conclude that the recent reforms in remuneration laws in Europe are a substantial step towards reducing short-term rent seeking and moral hazard behaviour. But the investigation also shows that the new remuneration laws are primarily principle based, thereby creating room for varying interpretations. The financial authorities should therefore closely observe and monitor market developments and take countermeasures if necessary. Furthermore, it is important to eliminate existing regulation gaps. Regardless of whether it is a lack of regulation or defects in supervision, they can be exploited and lead to inefficiencies in the system.

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