

Westfälische Wilhelms-Universität Münster
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Baksheesh, Bribes & Co.

Can the theories of New Institutional Economics explain which factors influence the overall level of corruption in a country?



[Source: own photo]

Handed in on the 20th of June 2006

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List of Abbreviations

CPI	Corruption Perception Index
EU	European Union
GDP	Gross Domestic Product
OECD	Organisation for Economic Cooperation and Development
PDI	Power Distance Indicator
PMR	Product Market Regulation
OAS	Organisation of American States
UN	United Nations

“Para os amigos, tudo; para os inimigos, a lei.”

[“Everything for friends, for enemies the law”]

Brazilian saying

1. Introduction

The fight against corruption is frequently mentioned as an important element of good governance. A number of anti-corruption treaties and agreements have been promoted by various organisations like the UN, OECD, and OAS. Recently, the president of the World Bank, Paul Wolfowitz, designated corruption as one of the biggest threats to the development of many countries. (Wernicke 2006)

However, the yearly-published Global Corruption Report reveals that the philosopher’s stone against corruption has not yet been found. The watchdog NGO Transparency International gives interesting figures. According to their surveys, 10 – 30 % of all Czech, Lithuanian and Greek households have paid bribes to public official in 2005. In Lithuania, these bribes made up a sum of 195 US-Dollars for each household. (Transparency International 2005) Furthermore, many corruption scandals made it on the news tabloids across Europe - often starring prominent personalities like Silvio Berlusconi and Helmut Kohl. This shows that corruption is not only a problem of the so-called “third world” but a global one.

In order to tackle this problem one has to know its causes and search for the factors that determine the prevalent level of corruption in a country. For this purpose, nearly every scientific discipline has sent out search parties that found numerous possible explanations ranging from cultural determinants to feminist theories, which see the cause of corruption in the low number of female public officials. (Alemann 2005: 36)

However, the most comprehensive and explicit theories have been developed by the branches of New Institutional Economics, specifically the Principal-Agent Theory and the Rent-Seeking Theory¹. Therefore, I will concentrate on these theories.

¹ Of course, the Rent-Seeking Theory rather emerged from a branch of the Public Choice Theory. Advocates of this theory may forgive me this little inaccuracy for the sake of a better visibility.

Before explaining my main research question and the research design, I will give a first working definition of the topic of my thesis – corruption. Unfortunately, there are numerous definitions of the issue differing from theory to theory and sometimes even from one researcher to another. Many scientists also differentiate between often overlapping categories like grand, petty, bureaucratic, political, systemic, and non-systemic corruption.

In order to remain visibility and avoid these overlaps, I will use a broad definition of corruption as given by Senturia. Later on, I will provide specific definitions for each described theory. Senturia defined corruption as the “...misuse of public office for private benefits”. (cf. Pritzl 1997: 19) This can include a number of different criminal acts such as bribing, embezzlement, clientelism and patronage. However, I will focus on public officials and not regard corruption in the private sector.

In this context, my main research question shall be: *Can the theories of New Institutional Economics and Rent-Seeking explain which factors influence the overall level of corruption in a country?*

In the first part of this thesis, I will give basic information about the theories and the factors they mention as the causes of corruption. Based on these theoretical factors, I will develop an analytical framework that contains a number of hypotheses. This part will be based on literature research.

Then, in the second part of the thesis, I will try to put the theory into practise and test some of the hypotheses. My methodological approach for this part will consist in a number of cross-national correlation analyses.

2. New Institutional Economics and Rent Seeking

The theories of New Institutional Economics are trying to fill the gap between political science and economics. The goal of this scientific branch is to explain the reasons for the development of institutions and their impact on economics. (Baßeler; Heinrich; Utecht 2002: 29 – 33)

In contrast to most classic and neo-classic approaches, New Institutional Economics discard the premise of markets with perfect competition but rather stress the preva-

lence of asymmetric information, margins in the price equilibrium, and the existence of monopolies, oligopolies and other market disturbances. In this context, institutions are regarded as a possibility to reduce insecurities for individuals and avoid the emergence of a zero sum game. They shall channel the “selfish” behaviour of the individual by providing rules and structures that create security and trust. Nevertheless, these theories stick to the classic economic idea of man and stress the profit-maximizing behaviour of humans, though they acknowledge that profits can be others as material. (Pritzl 1997: 27 – 30)

New Institutional Economics by itself is not yet a homogenous theory but more a set of different interrelated theories such as the Principal-Agent Theory, the Property Rights Theory, the transaction cost approach, and the Rent-seeking Theory.

In the following, I will focus on two of these theories: Firstly, the Principal-Agent Theory that can provide explanation about the individual choice for or against engaging in corruption. Secondly, the Rent-seeking Theory, which examines the development of state-created rents that can be earned by corruption. Where it is necessary for a coherent understanding, I will as well explain details of interrelated theories.

At the beginning of each sub-chapter, I will give an overview over the basics of the theory and then, in the second part, I will explain the connections to the issue of corruption. Furthermore, you will find a short definition of corruption in relation to the addressed theory in the black boxes.

2.1 The Principal-Agent Theory

As the name indicates, two basic players are involved in this theory: The Principal who gives the working order and the Agent who shall fulfil it. They make an implicit or explicit contract about what shall be done. In today’s highly specialised economies such principal-agent relationships are numerous and the basis of division of labour.

If you go into a hospital for an operation, you involve in a principal-agent relationship with the doctors. This relationship is based on a contract: You expect the doctors to heal you and the doctors expect to receive payment for it.

This is where two of the premises of New Institutional Economics become important: Asymmetry of information and the opportunism and profit-maximising behaviour of

the individual. The Agent has better information about his work than the Principal, on the one hand because he is specialised in his area of work, and on the other hand because he is the one who is actually carrying out the transferred task. As the agent is only interested in his advantage, he will try to use this asymmetry of information for his own benefit. The Principal can only see the outcome of the Agent's work, which is not only determined by the Agent himself but also by external factors. Hence, the Principal often cannot infer from an outcome on the quality of the Agent's work. A bad outcome could have been caused by a lack of engagement of the Agent but as well by some unforeseeable external factors. (Groenendijk 1997: 211 – 217) (Baßeler; Heinrich, Utecht 2002: 30 – 33)

Before the operation, the patient is anaesthetised. Thus, he does not see what the doctors are doing during the operation. They could just go to take a cup of coffee instead of operating because doctors are as opportunistic as everyone else is. They foremost want to maximise their profits. After waking up, the patient can only observe whether he is healed or not. Let us consider that the patient is healed. In this case, he does not know if the operation cured him or if he would have felt better anyway after resting some time.

Now let us consider that he is still sick after the operation; the doctors could have done their best without being successful. Maybe the flu weakens the patient so that he cannot recover from the operation; this flu would be an external factor, which could not be controlled by the doctor.

In both cases, the doctors can profit of an asymmetry of information. They enjoyed many years of medical training, whereas, most of the patients have at best watched a series of "Emergency Room". Therefore, they have to believe what the doctors tell them.

In order to avoid losses induced by the Agent's profit-maximising behaviours the Principal has two possibilities - both produce additional costs:

Firstly, he could try to collect information about different Agents to find the best one (which is only possible if the agent does not have a monopoly, as it is the case for many public services). He could as well negotiate an explicit contract that reduces the discretion of the agent. Unfortunately, this would also create extra costs for the Principal (seeking and information costs, negotiating costs). These costs can be summarized under the term "ex-ante transaction costs" or also as "prevention costs"

(Groenendijk 1997: 215). (Pritzl 1997: 35 – 37) (Baßeler; Heinrich, Utecht 2002: 23 – 24)

Secondly, he could try to control the agent and sanction him if he does not act according to his will. The costs created by this alternative (control and sanctioning costs) can be summarised as “ex-post transaction” costs or alternatively as “inspection costs” (Groenendijk 1997: 215). (Pritzl 1997: 35 – 37) (Baßeler; Heinrich, Utecht 2002: 23 – 24)

However, the Agent will always have a certain degree of discretion that he could use to maximise his profits on the Principal's costs.

Of course, the Agent would have costs as well, he would have to invest resources to hide that he is not fulfilling his task the way the Principal wants it (concealment and diversion costs). (Groenendijk 1997: 215)

To illustrate this, I will come back to our example: Of course, the patient could inform himself about the hospitals in the city. He could as well try to make a special contract with private doctors about the operation tools and methods they have to use.

This would cause ex-ante transaction costs for the time effort spent on collecting information, for the travel costs of driving to another hospital, or for the additional payment that the doctors demand for the use of a special method.

Ex-post transaction costs would emerge if the patient tried to control the doctors by consulting other medical experts to evaluate the results of the operation.

Institutions can reduce transaction costs because they stabilise expectations by providing a set of rules and instruments to guarantee that these rules are respected. Such institutions could consist in contracts, guarantees, laws, or as well in the reputation of an Agent. (Baßeler; Heinrich, Utecht 2002: 29) According to Groenendijk, the principal can take three different measures to steer the Agent's activities: (Groenendijk 1997: 211 – 212)

- Incentives: The Principal can provide negative or positive incentives to increase the possibility that the Agent opts for the activities that are favoured by the Principal as well (e.g. the patient could pay a reward in the case of a successful operation = positive incentive). (Groenendijk 1997: 211)
- Directives: Directives try to reduce the Agent's discretion, by providing how the Agent is supposed to work, which activities he shall pursue in order to achieve

the demanded outcomes (e.g. laws that prohibit certain operation methods or medicines). (Groenendijk 1997: 212)

- Persuasion: Persuasion aims at convincing the Agent that he profits from fulfilling the task in the way the Principals wants it as well (e.g. by the Hippocratic Oath). (Groenendijk 1997: 212)

However, one has always to bear in mind that institutions and the mentioned measures can only reduce insecurity but never eliminate the discretion and opportunism of the Agent.

2.1.1 The Principal-Agent Theory and Corruption

Box 1: Definition of corruption according to the Principal-Agent Theory

“Corruption takes place when: (1) there is a secret violation of a contract that, implicitly or explicitly, involves a delegation of responsibility and the exercise of some discretionary power...(2) by an agent who, against the interests of preferences of the principal...(3) acts in favour of a third party, from whom he receives a reward...Focussing on political corruption in a democratic regime, we should add a fourth condition, (4) the principal is the state...” (Della Porta; Vannucci 1997: 232)

Principal-Agent relationships do not only exist on the free market. In a democratic regime the citizen are the Principals of elected politicians. In the elections, they make an implicit contract and barter their votes against expected beneficial politics. On a second level, the elected state officials are principals to the public officials and other bureaucrats. (Pritzl 1997: 38 – 42)

Bureaucrats, like other agents, behave opportunistic and will engage in corruption, if the expected benefits of these illegal transactions outweigh their costs. An important difference between bureaucrats and Agents on the free market is that they often hold a monopoly over scarce resources, which they can use to their advantage (e.g. li-

censes, public services, state-owned enterprises, welfare funds). (Alemann 2005: 30 – 31)

The “third party” could be single citizens, interest groups, or companies. Most of political economists share Della Porta’s and Vannucci’s terminology of a “third party”. Groenendijk has tried to incorporate the third party into the Principal-Agent model by describing it as a second Principal, which gives a working order to a public official and pays him with a bribe. (Groenendijk 1997: 217 – 222)

According to the theories of New Institutional Economics, the decision of individuals to engage in corruption is determined by the Agent’s and the Second Principal’s (respectively “third party) appreciation of values of the personal advantages or disadvantages. As mentioned before, these advantages or disadvantages are determined by the costs and benefits of corruption. However, the Principal-Agent Theory focuses on the costs of corruption.

According to Groenendijk, the additional costs that emerge for the Agent and the corrupt Principal are: The searching costs of finding a corrupt Agent or a corrupting Principal, the costs of negotiating for an appropriate bribe, the bribe itself (only for the corrupting principal), the costs of covering up the illegal action (e.g. against the police), the cost of penalty multiplied with the probability to get caught, and the moral costs of corruption (reputation, bad conscience etc.). For a better visibility, I will leave aside the fact that with recurrent corruption, additional prevention and inspection costs, as well as new concealment and diversion costs may emerge from the relationship between the second Principal and the Agent. (Groenendijk 217 – 222)

Nevertheless, I would like to introduce opportunity costs as one additional category of costs. If one withdraws resources from the production of one good (or service) to produce another good, the opportunity costs are the production losses made for the first good. (Baßeler; Heinrich; Utecht 2002: 18) In the context of corruption, the opportunity costs would be the losses that are made by spending time and resources on corruption instead of using them to produce legal incomes.

Pritzl argues that opportunity costs would not have to be considered by corrupt public officials because they were paid monthly wages. Thus, they would always have the same legal income whether they engaged in corruption or not. (Pritzl 1997: 125 – 127) In my opinion, opportunity costs are important for the decision about engaging in corruption. Goudie and Stasavage stress the importance of the public officials’ wages without explicitly defining it as opportunity costs: “If officials are paid wages

comparable to those available for similar duties in the private sector, and are compensated according to performance, the potential gains from engaging in corruption may not be large enough in relative terms to make it worth the risk.” (Goudie; Stasavage 1998: 122) Hence, one could define the opportunity costs of corruption as the difference between the legal income of a public official and the income he could earn in bribes. If a public official receive relatively high wages, a second Principal would have to offer a higher bribe to reduce the opportunity costs of the Agent.

On the benefit side of corruption, the corrupting Principal receives services or goods or can impede costs (e.g. by speeding up the administrative process or preventing the payment of fines). Whereas, the benefits for the Agent consist in the bribes he receives (e.g. in the form of money, goods, or services). (Groenendijk 1997: 218 – 220) These bribes do not have to be paid by the corrupt Principal himself but can also unknowingly be paid by the first Agent (the state). This phenomenon is called “corruption with theft”. (Shleifer; Vishny 1993: 601)

In this chapter, we have seen that the individual decision to participate in corruption is determined by an appreciation of values of the costs and benefits emerging from it. In the criteria for my country studies, I will come back to these costs and will try to determine which institutional settings are likely to increase or reduce them.

2.2 The Rent-Seeking Theory

The Principal-Agent Theory is very explicit about the cost side of corruption but does not explain where the rents that are skimmed from the state originate. In this chapter, I will have a look at the Rent-Seeking Theory that tries to locate these origins.

According to Pritzl rent-seeking can be defined as an effort to acquire incomes in a political process without offering an appropriate payment or service in return. These incomes can, for instance consist in subsidies, welfare transfers, or the avoidance of costs by tax cuts. (Pritzl 1997: 21)

The “political rents” earned by rent-seeking activities can be defined as the difference between the real market value of the received benefits and the value of the payment or service offered in return (if any). (cf. Della Porta; Vannucci 1997: 234 – 235)

One may differentiate between static and dynamic rent-seeking. Static rent-seeking aims at acquiring already existing rents while dynamic rent-seeking aims at the creation of new rents. (Pritzi 1997: 211 – 221)

Political rents are generated by public interventions into the free market. Hence, rent seeking is not a normal market activity but can only exist because the state controls or restricts the use of resources by regulations. Nearly all state interventions create political rents, public enterprises that enjoy favourable treatments on the markets as well as welfare systems. Rent-seekers try, for example, to exert political pressure in order to get assignments from a public enterprise, to achieve higher transfers from public welfare, or to reduce social insurance payments. Alternatively, to put it into the terminology of the Property-Rights Theory, they try to push the state to change property rights to their advantage; because as Benson and Baden state: “governments operate by assigning, reassigning, modifying, or attenuating property rights”. (cf. Della Porta; Vannucci 1997: 233)

A branch of the Rent-Seeking Theory is also dedicated to calculating the welfare costs that accrue from rent seeking. The problem with such political rents is that they are not performance-oriented market incomes, but merely a re-allocation or redistribution of already existing resources, goods, or services. Thus, the rent-seekers spend resources in order to achieve distributive or allocative advantages instead of investing them in innovations (in a Schumpeterian welfare creating sense). Therefore, the welfare costs for society consist not only in the “deadweight losses” of monopoly or oligopoly rents but also in the costs of the rent-seeking activities itself. (Pritzi 1997: 202 – 205) (Baßeler; Heinrich; Utecht 176 – 180) Additionally, the resources spend on rent seeking can increase if a competition for rents emerges. Because different rent-seekers compete for a certain political rent, they overbid each other and the equilibrium price for the rent increases. (Krueger 1974: 291 – 303)

Rent seeking can take on many forms, legal ones like lobbying or the use of personal influence and acquaintances, as well as bribing public officials or politicians.

2.2.1 The Rent-Seeking Theory and Corruption

Box 2: Definition of corruption according to the Rent-Seeking Theory

Corruption exists, when: “The corruptor induces the public Agent to surrender the resources associated with his public role “...in order to obtain – or increase the probability of his obtaining – rights to the enjoyment of a “political rent”. In exchange for these resources, the third party [illegally] offers to the public agent a part of the value of such political rent, typically in form of a bribe” (Della Porta; Vannucci 1997: 232)

Comment: The square brackets are an infix of the author of this thesis.

Corruption takes place, because rent-seekers try to change public owned property rights over resources by influencing the decision makers (in the case of bureaucratic corruption the public officials).

According to Rose-Ackerman, this happens to receive more for a resource than the actual market value, to pay less for a resource than the actual market value, or to impede costs created by public market interventions. As mentioned above, the rents consist in the difference between the market value and the paid price, or in the avoided costs. Afterwards, the profits of the rent are shared between the corruptor and the public official, who receives a bribe. (cf. Della Porta; Vannucci 1997: 234 – 235)

As mentioned before, political rents are created by state interventions, or as Rose-Ackerman states: “Thus corruption depends upon the magnitude of the benefits and costs under the control of public officials”. (Rose-Ackerman 1997: 31) Consequently, the prevalence of corruption in a society has to be correlated with the degree of state intervention, the size of the public sector, or negatively formulated with the absence of free market competition. The more decisional power a state has over resources and the market in general, the better target it is for rent-seekers.

One could argue that rent-seeking might also take on legal forms like lobbying but Ades and Di Tella confirm a correlation between the prevalence of rents and corruption: “...we find that, other things equal, countries where firms enjoy higher rents tend to have higher corruption levels...we find that corruption is higher in countries where domestic firms are sheltered from foreign competition...These results suggest that

policies aimed at making markets more competitive could play a role in controlling corruption.” (Ades; Di Tella 1999: 991 – 992)

Nevertheless, most political economists deny a singular causality between state interventions and corruption. Alemann warns to condemn bureaucracy in general because it would produce security for economic transactions. Rose-Ackerman suggests: “The level of malfeasance depends not only on the volume of potential benefits, but also on the riskiness of corrupt deals and on the participants’ moral scruples and bargaining power.” (Rose-Ackerman 1996: 1) Whereas, Pritzl underlines the constitutional circumstances that influence the individual choice by incentives and sanctions. (Pritzl 1997: 33) Della Porta and Vannucci use the example of the Scandinavian countries and argue that the size of the public sector and public market intervention is one factor but “...many other factors, such as moral costs and other institutional incentives, influence the presence of the phenomenon” of corruption. (Della Porta; Vannucci 1997: 235) This would lead to the conclusion that more state interventions and a bigger public sector lead to the development of higher political rents but if, or how, these rents are used depends on the institutional and societal circumstances.

These assumptions could close the gap to the Principal-Agent Theory. In the following box, I will try to connect elements of the Principal-Agent and the Rent-Seeking Theory that explain different levels of corruption. This definition shall be the basis for the operationalisation and the development of criteria to interpret the causes of a high or low level of corruption in a society according to the theories of New Institutional Economics.

Box 3: Factors determining the level of corruption in a society according to the theories of New Institutional Economics

The level of corruption in a society is determined by the profit-maximizing behaviour of its individuals, the institutions that channel it, and the amount of possible political rents. On the costs sides it is determined by the institutional settings that provide incentives, persuasion, or directives, which either promote or hinder corruption by influencing its costs. On the revenue side, it is determined by the size of political rents that can be achieved by corrupt behaviour.

3. Research Operationalisation

The goal of this chapter is to develop a framework to analyse the causes of different levels of corruption in countries against the background of the theories explained in the previous chapter.

Therefore, I will look at both the revenue and cost side of corruption, and try to develop criteria that explain the institutional and societal settings and politics, which determine the individual decisions in favour of or against corruption. These criteria shall summarise the incentives, directives, or persuasive measures are provided in a state that influence the individual decisions of its inhabitants.

According to the Principal-Agent approach, the Agent benefits of corruption by the bribes he receives, whereas, the Principal benefits from the goods or services he (or she) renders or the costs he can impede. The availability of such benefits in a society can be explained by the Rent-seeking Theory because both, the bribe and the rendered goods and services, are political rents. Therefore, I will try to summarise the factors that produce political rents in the criteria on the revenue side.

The criteria for the cost side stem from the Principal-Agent Theory and consist in the additional costs corruption creates for the principal and the agent. These consist in searching, negotiating, covering up, opportunity, and moral costs, plus the penalty \times probability to be caught. For reasons of clarity and better operationalisation, I will assemble the first three costs in one criterion.

3.1 Revenues of Corruption

According to Rose-Ackerman, "...the size and incidence of bribe payments are determined by the overall level of benefits available". (Rose-Ackerman 1996: 2) In the following paragraphs, I will have a look at this revenue-side of corruption.

3.1.1 The Size of the Public Sector

According to the Rent-seeking Theory, the size of the public sector in a state is correlated with the level of corruption. The simple logic behind this assumption is that the more a state spends or gains, the more can as well be earned by corruption. Such political rents can be extracted from the supply and the demand side of the public sector. Based on Rose-Ackerman, Della Porta and Vannucci describe the possibilities to earn political rents in this context as follows:

- State demand: “In this case the political rent is created by the decision of the state to pay more for private resources than their value to the seller in the most remunerative alternative use.” (Della Porta; Vannucci 1997: 234)
- State supply: “A political rent is created by the state accepting less for rights to the resources than the private purchaser or recipient would be willing to pay.” (Della Porta; Vannucci 1997: 235)

Therefore, the amount of public sector expenditures and revenues should be an indicator for the level of corruption in a state: The more a state sells or buys, the more incentives for corruption exist.

3.1.2 Degree and Kind of Public Market Interventions vs. Free Competition

Closely related to the first criterions the degree and kind of public market interventions, or on the contrary, the degree of economic liberalisation in a country influences the overall level of corruption.

- Firstly, public monopolies or oligopolies are likely to offer incentives for possible corruptors. This concerns public enterprises as well as monopolistic agencies that offer, goods or public services.

It is obvious that public enterprises are a welcome target for corruptors. If these companies hold a monopoly or oligopoly, economic advantages cannot be achieved by competition but only by rent seeking. Even in the case of recently liberalised markets, the former state enterprises are likely to have a competitive advantage over the competing companies because they enjoyed years of public funding. If the economy has been successfully liberalised, in an

open and transparent process, the amount of political rents that can be earned from corruption is significantly reduced. (Streissler 1981: 305 – 308)

However, also government agencies are more vulnerable to corruption if they are the only agency offering a certain service or good. It is much easier to extract political rents from one powerful agency than from a large number of different ones. Overlapping jurisdictions and federal systems with different layers of public administration reduce the amount of political rents that can be earned from one centralistic agency. If these different government agencies even have to compete for citizens, the total amount of political rents can even be reduced, because as Goudie and Stasavage note: "...competition among different officials will drive the bribe price down to zero." Thus, political rents are reduced. (Goudie; Stasavage 1998: 117 - 118)

Therefore, monopolistic agencies and public enterprises can create political rents and targets for corruption. In liberalised economies with a lower degree of public monopolies or oligopolies, exist less incentives to engage in corruption. Decentralised government and administrative structures, ideally even competing layers of government, give a negative incentive against corruption.

- Secondly, administrative opacity and the possibility of agencies to sanction or delay economic activities can produce political rents: "Political rent in this third case comes from the power to escape punishment or costs and is equal to the corruptor's anticipated loss (which is itself equal to the maximum he is willing to pay in order to avoid it)." (Della Porta; Vannucci 1997: 235) Therefore, if the economy of a country is highly regulated, government agencies have the possibility to delay or blockade economic activities. This can be an incentive to offer bribes in order to speed-up the administrative process or to avoid sanctions.
- Thirdly, the kind of market politics pursued by a state can give further incentives for corruption. Streissler underlines the connection between economic politics and corruption. Subsidies and special benefits for local companies are political rents that can be sought by bribing. In his opinion, especially anti-cyclical politics are likely to increase the level of corruption, because increased subsidies and work orders are offered to the companies during economic downturns, which lead to an enlargement of capacities. Once the anti-cyclical measures are stopped, companies suffer higher fixed costs due to the

enlarged capacities. If these capacities cannot be fully used, these additional fixed costs can be an incentive to bribe public officials for new work orders or subsidies. In this case, the bribes would not even create additional costs as long as they are lower than the additional fixed costs, which were created by the anti-cyclical measures. Therefore, subsidies, anti-cyclical, and protectionist politics are incentives for corruption. (Streissler 1981: 306 – 312)

Statistics like the OECD's Product Market Regulation Indicator give hints about prevailing market regulations, scope of public enterprises, and protectionist politics.

3.2 Costs of Engaging in Corruption

As discussed above, the individual decision to bribe is determined by the calculation of the costs and benefits of the corrupt activity. Therefore, I will now have a look at the institutional settings, which influence the cost side of corruption.

3.2.1 Searching Costs, Negotiating Costs, and Opportunity Costs

Goudie and Stasavage note that the rotating of public officials is a means of reducing corruption. If the public official occupying a certain post is exchanged from time to time, the searching and negotiating costs for a possible corruptor are increased because he would frequently have to search and negotiate for a new corrupt public official. By an institutionalised rotation of public officials, more agents are involved in one task. Hence, the an institutionalised rotation of public officials would offer a negative incentive for the corrupt principal by increasing his searching and negotiating costs, or to put it the other way round, a lack of rotation offers opportunities for corruption. (Goudie; Stasavage 1998: 119)

Regarding the opportunity costs of corruption, the height of wages for public officials can offer an incentive. As mentioned earlier, the potential gains of corruption are lower if the wages of public officials are "similar to those available for similar duties in the private sector". (Goudie; Stasavage 1998: 122)

To sum it up, if public agents stay a long time on the same post, the searching and negotiating costs for corrupting principals are reduced. Relatively low wages of public officials, compared to the wages that can be achieved for similar activities on the free market, are a further incentive to accept bribes. The average time public officials remain on one post could be evaluated statistically; so far, such data are not available. Whereas, the average wages of public officials could be compared to the average wages of other white-collar workers in a country.

3.2.2 Cover-Up Costs

The more discretion a public official enjoys, the easier it is for him to cover up illegal activities. How can directives effectively reduce the discretion of public officials? Goudie and Stasavage discuss this problem as well. In their opinion, it is not clear, whether it can be solved by increased hierarchical control because more hierarchy can as well lead to the case that officials that are “far removed from the actual activities” have to make decisions. This would make it even easier for corrupt agents to cover up their activities. Again, decentralised control by federal structures or functionally overlapping jurisdictions seems to be one of the best institutional arrangements to avoid corruption and to control the discretion of public officials. Hierarchies are kept flat but control can nevertheless be exercised. (Goudie; Stasavage 1998: 119)

Furthermore, simple and transparent laws and codes of conduct for public officials are most likely to reduce corruption because they prevent creative “interpretations” of explicit laws to cover up illegal activities. Rules that are too explicit will likely not reduce the discretion of officials but increase it because it is too difficult for other to understand the amount of discretion an official is allowed to use. Therefore, simple and transparent directives are likely to reduce corruption. (Goudie; Stasavage 1998: 118)

Another factor, which can raise the covering up costs for corruption are monitoring systems. It would by far exceed the possibilities of this paper to examine, which systems are best suited to prevent corruption (e.g. outside auditors, questionnaires for clients, reporting structures), but the mere existence of such systems will push up the costs of hiding illegal activities. (Goudie; Stasavage 1998: 118 – 119)

To sum it up, centralist structures, high hierarchies, explicit rules and codes of conduct, and the lack of monitoring systems increase the discretion of public officials and, thus, reduce their covering up costs. Aggregated data about these factors are not available and would have to be collected for each country in a case study.

3.2.3 Penalty x Probability of Being Caught

High penalties for corruption increase the risks associated with engaging in it. It is important that penalties exist for the corrupt Agent as well as for the corrupting Principal, so that the possible costs of penalties are increased for both actors. It is even more important, that also small “favours” and making “gifts” to public officials is sanctioned so that a clear distinction can be made between legal and illegal activities. Anti-corruption laws should furthermore protect whistleblowers by offering police protection and the possibility of staying anonymous if it is necessary. (Alemann 2005: 42)

However, even the most drastic penalties are inefficient if the risk of being caught is minimal, as a study of Bannenberg for the German federal criminal police (BKA) underlines. Special police units and judicial institutions should be dedicated to the task of uncovering corruption, as well as ombudsman in public agencies that make anonymous reports possible. (BKA 2002) As already mentioned above, further possibilities to increase the probability to be caught can consist in the use of outside auditors and monitoring systems. However, the more of such mechanisms exist the higher are the possible costs of corruption. The probability to be caught is furthermore connected to the moral costs of corruption, which I will discuss for the next criteria. If corruption is regarded as morally “evil” or “wrong”, this is an incentive to report such corrupt activities. Della Porta and Vannucci even assume that “high moral costs make anti-corruption laws “self-enforcing””. (Della Porta; Vannucci 2005: 125)

To sum it up, high penalties for corruption, an all-embracing criminal law regarding corruption, and a strong law enforcement by institutionalised tracing and control mechanisms increase the costs for penalty and the probability of being caught. Unfortunately, there is no aggregated data available for these factors.

3.2.4 Moral Costs

Moral costs can be a strong incentive to sustain from corruption. In their essay “The Moral (and Immoral) Cost of Corruption”, Della Porta and Vannucci reject the assumption that these moral cost only consist in personal preferences and differ for each individual. They stress that an “absolute level” of moral cost, “reflecting internalized beliefs” exists in every society and influences the overall level of corruption. (Della Porta; Vannucci 2005: 111) If corruption is widely regarded as morally “evil”, the costs of engaging in such activities will rise and the costs of reporting corruption are reduced.

However, then what informal institutions and internalized beliefs do cause a high or low level of corruption? One of the factors, which are frequently mentioned, is religion. According to Alemann, hierarchical religions and societies tend to be more corrupt because power and resources are often concentrated in certain positions and power officials not called into question. (Alemann 2005: 114) Della Porta and Vannucci specify that in the European context, especially catholic countries seem to have higher levels of corruption due to hierarchical structures but also because of a culture of institutionalised forgiveness: “...for the possibility, via confession, to be absolved of guilt and guilty feelings.” (Della Porta; Vannucci 2005: 113)

Beside hierarchical structures in a society, the political culture, the “people’s attitudes vis-à-vis the political process”, is an important factor. (Della Porta; Vannucci 2005: 113) If people regard their political system and public administration as unjust, the moral costs of engaging in corruption are much lower. Other informal societal systems could gain more trust than the state: Family, clan, criminal organisations.

Of course, all these explanations run into the danger of causal endogeneity: Do the societal beliefs cause the level of corruption or does corruption cause the societal beliefs? (Goudie; Stasavage 1997: 132) Most likely, these two explanatory variables affect each other, creating a negative spiral.

To sum it up, hierarchical societal structures and religious beliefs, and negative attitudes towards public administration and the political system in general are likely to reduce the costs of engaging in corruption. Flat hierarchies and societal beliefs, which condemn corruption and express trust in the official institutions offer persuasion to sustain from corruption. Norms and cultural attitudes are difficult to measure. The Dutch economist Geert Hofstede has nevertheless tried this; his Power Distance

Indicator is an attempt to measure societal hierarchies. Of course, one would need to conduct explicit case studies to evaluate the national attitudes towards the issue of corruption.

Box 4: Tabulated summary of chapters 2 and 3

Revenues of Corruption	Costs of Corruption
<p><i>Size of the public sector</i></p> <ul style="list-style-type: none"> - Low vs. high public expenditures and revenues 	<p><i>Searching, negotiating, and opportunity costs</i></p> <ul style="list-style-type: none"> - Rotation of public officials vs. static administrative structures - Appropriate height of wages of public officials compared to wages for similar activities on the free market vs. too low wages
<p><i>Degree and kind of market intervention</i></p> <ul style="list-style-type: none"> - No public enterprises or state created monopolies/ oligopolies vs. state enterprises, public monopolies/ oligopolies Decentralised (ideally competing agencies and levels of government) vs. centralised administration - Low regulated market, few administrative obstacles vs. administrative opacity, high market regulation - Liberal public market politics vs. anti-cyclical and protectionist politics (subsidies, possible tax incentives) 	<p><i>Covering up costs</i></p> <ul style="list-style-type: none"> - Decentralised vs. centralistic control - Simple and transparent laws and codes of conducts for administrative processes vs. explicit and complicated regulations - Established anti-corruption monitoring systems vs. no or insufficient systems <hr/> <p><i>Penalty x probability to be caught</i></p> <ul style="list-style-type: none"> - Comprising anti-corruption laws for the public administration (punishing also of small “gifts” and “favours”, protection of whistleblowers) vs. less or no efficient regulations - Special, independent prosecution institutions (police forces, general attorney, ombudsman etc.) vs. no special prosecution units or institutions, which cannot work independently <hr/> <p><i>Moral costs</i></p> <ul style="list-style-type: none"> - Low societal hierarchies vs. Hierarchical societal structures - Distrust in the political system and the administration vs. Affirmative political culture (esprit de corps of public officials etc.)

4. Empirical Tests

In the following chapters, I will try to falsify or validate the theoretical explanations of the previous chapters by four empirical hypotheses tests. It is difficult to find appropriate empirical data that match the theoretical concepts. On this account, I will only test four hypotheses, two regarding the revenues side of corruption and two concerning the cost side. It is important to keep in mind that there is not likely to be one variable, which explains the overall level of corruption in a country. Probably, the level of corruption in a country is caused by many different variables. Nevertheless, explanatory variables should be significantly correlated with the levels of corruption when tested empirically for a number of countries; otherwise, they would have to be regarded as meaningless.

Therefore, the hypotheses tests will be designed as cross-national correlation analyses. It is important to stress that correlation cannot definitely prove causality. However, such definite proofs are rare in social sciences; in order to make clear causal inferences we would have to observe the same units of observation as well for the explanatory variable as for its counterfactual under exactly the same circumstances. Since that is not possible for my researches, cross-national correlation analyses are the next best choice. Furthermore, one has always to keep in mind that correlations between two variables can be caused by a third unobserved variable. A certain degree of uncertainty will always remain and is a basic element of science. In order to increase the number of observation and, thus, also the validity of my findings, I will conduct the analysis for the figures of different years. Unfortunately, the data sets of the different years cannot be combined; because the indicator for the dependent variable (the Corruption Perception Index) uses slightly different polls and methodology each year. (Keohane; King; Verba 1994: 75 – 113)

For these analyses, I will use the SPSS computer programme to calculate the Spearman Rank Correlation Coefficient. This coefficient has to be used because the comparator for the dependent variable, as well as most of the comparators for the independent variable, is only ordinal scaled. The Spearman coefficient only helps to calculate correlations between ranks. Therefore, I will have to rank each data set from low to high values or vice versa - according to the research purpose. (Mayer 1995: 81 – 98)

SPSS calculates the correlation in percent and the significance of the findings, meaning to which degree they could have been caused by random variance. On the significance scale, a value close to zero indicates that a correlation is unlikely to have been caused by chance; any modulus higher than 5 % suggests a random correlation. (Foster 1998: 14)

4.1 Empirical Tests on the Revenue Side of Corruption

In the following, I will test two hypotheses regarding the revenue side of corruption. For each hypothesis, I will start by describing the comparators that I used for the empirical tests including a critical assessment of the data. Then, I will explain the methodological procedure, present the results and make first conclusion about my findings. At the end of each hypothesis test, I will summarise the important facts and findings in a comprehensive table.

4.1.1 Hypothesis: A Large Public Sector Promotes Corruption

In order to find out if a large public sector promotes corruption, I conducted a cross-country analysis in which I compared the total public revenues and expenditures as percentage of the GDP with the CPI.

For this analysis, I used data on the European Union, which are provided by Eurostat for the years 1998 and 2003. I have chosen these data because the Eurostat database is easily accessible and offers aggregated statistics about revenues and expenditures as percentage of the GDP. Furthermore, I have selected the years 1998 and 2003 because I will use data on the same year for the next hypothesis tests as well. (for complete data see Appendix I)

The Corruption Perception Index

In all of my hypotheses tests, I will use Transparency International's "Corruption Perception Index" (CPI) as and indicator for the dependent variable (the extent of corrup-

tion in a certain country). The NGO first published its CPI in 1995; nowadays, it is without a doubt the most cited and most comprehensive survey on corruption.

However, the CPI does not measure the level of corruption in a country itself but the degree to which public officials and politicians are believed to accept bribes, take illicit payments in public procurement, embezzle public funds, or commit similar offences. Thus, it measures the perception of corruption. (Amundsen; Andvig; Fjeldstad; Sissener; Søreide 2000: 39 – 43)

The CPI is based on a compilation of a number of polls by the different independent national chapters of Transparency International. Most of these polls are conducted on corruption experts and company managers. These different sources are weighed according to their force of expression and summarised by a researcher team at the University of Göttingen. Each country is marked on a scale from one to ten, one describing a very corrupt and ten a corruption-free country. (Amundsen; Andvig; Fjeldstad; Sissener; Søreide 2000: 39 – 43)

However, the CPI is as often criticised as it is cited. Some argue that it is solely based on perception; others that the summarised polls use different methodologies. Many also criticise that the indicator does not distinguish between administrative, political, petty, and grand corruption. (Amundsen; Andvig; Fjeldstad; Sissener; Søreide 2000: 39 – 43)

In my opinion, most of this criticism is exaggerated. Corruption is per definition a hidden phenomenon and its true extent cannot be measured; therefore, the only feasible way to achieve information about the level of corruption in a country is to conduct a survey on the people who are experts on the issue. Of course, the participants of these polls can only describe their own perception but these perceptions are based on profound knowledge.

The use of different methodologies in the polls is a problem but the summary of a large number of polls makes the indicator also more meaningful. Furthermore, the CPI is strongly correlated with other similar indices, which are not part of the CPI; this shows that the methodological problem cannot be very grave. (Amundsen; Andvig; Fjeldstad; Sissener; Søreide 2000: 41)

In addition, I think that it is better to use a comprehensive definition of corruption instead of distinguishing between numbers of different theoretical definitions. As I have described before, every researcher and every theory and sub-theory use a slightly different definition of corruption. Often, these definitions cannot really be distin-

guished. If a city mayor receives a bribe for favourable treatment in the process of public procurement, is it bureaucratic or political corruption; and which amount counts as petty and which as grand corruption?

Hence, I decided to use the CPI as an indicator for the extent of corruption in a country.

Methods of data analysis

The underlying assumption was that if a high percentage of the GDP is consumed by public revenues and expenditures, the level of corruption in a country is high as well. Therefore, I have assigned rank one to the country with the highest percentage of public revenues and expenditures and the country with the lowest score on the CPI, indicating the highest level of corruption.

Furthermore, I have used the data of the EU member states for which the CPI was available as well. Therefore, the correlation analyses comprised 20 countries for 1998 and 24 for 2003.

Results of the analysis

Regarding the public revenues, the analysis revealed a weak negative correlation with low significance for 1998 and a medium negative correlation with high significance for 2003.

Concerning the public expenditures, the correlations with the CPI were weak for both years and had only very low significance.

Thus, the results showed no meaningful correlations. Seen separately, the public revenues and the CPI were correlated for 2003. Despite the high level of mathematic significance, this correlation has to be regarded as caused by chance in the context of the data for 1998.

Sub-conclusion

The data analysis seems to falsify this hypothesis: A large public sector does not promote corruption. At least, the level of perceived corruption showed no correlation with the size of public revenues and expenditures. Even more, the weak correlation that has been revealed was negative. This suggests that, if the variables are connected at all, it works the other way round: A large public sector hinders corruption.

However, the analysis showed no sufficient correlation; therefore, it cannot exist any causal relation between the variables.

Box 5: Tabulated summary of chapter 4.1.1

Dependent variable	Extent of Corruption
Indicator to measure the dependent variable	Corruption Perception Index for 1998 and 2003
Data source	Transparency International
Independent variable	Size of the public sector
Indicators to measure the independent variable	Total public revenues and expenditures as % of the GDP for 1998 and 2003
Data source	Eurostat
Underlying assumption	High percentage of revenues and expenditures ⇔ low score on the CPI
N	1998: 20 2003: 24
Spearman Rank Correlation Coefficient	Revenues and CPI 1998: - 0.276 (-27.6 %) 2003: - 0.622 (- 62.2 %) Expenditures and CPI 1998: - 0.106 (- 10.6 %) 2003: - 0.375 (- 37.5 %)
Level of significance	Revenues and CPI 1998: 0.239 (23.9 %) 2003: 0.01 (1.0 %) Expenditures and CPI 1998: 0.656 (65.6 %) 2003: 0.071 (7.1 %)

4.1.2 Hypothesis: Protectionist Politics, Public Monopolies & Oligopolies, and Other Market Regulations Favour Corruption

In order to test this hypothesis, I used the Product Market Regulation Index to measure the degree of protectionist politics, public monopolies and oligopolies, and other market regulations.

Unfortunately, it is not feasible to measure these factors separately because they are interconnected. A separate indicator for public enterprises, for instance, would be available but a public monopoly could also be established by license and permit systems, which are measured by another indicator. Protectionist politics can be implemented in many different ways, for instance by burdens on start-ups, price controls, and license systems. Therefore, it could prove difficult to measure protectionist politics alone, too.

However, all of these factors are ideally summarised in the Product Market Regulation Index. (for complete data see Appendix II)

The Product Market Regulation Index

The Product Market Regulation Index was compiled by the OECD and its main goal was to support a peer review of governmental market politics.

According to the OECD, the indicator measures “the degree to which policies promote or inhibit competition” in each member state (Conway; Janoud; Nicoletti 2005: 2). Thus, it is based on the analysis of market policies and not on their outcome or subjective perceptions of the degree of regulations.

To collect the data for the PMR, the OECD sent questionnaires to all member governments. These questionnaires contained questions on 129 possibly existing market regulations; concerning a wide field from the scope of public enterprises, price controls, license and permit systems to ownership barriers for foreign companies, and many others. Within the countries, the questionnaires were passed on to the public officials responsible for the specific issues. (Conway; Janoud; Nicoletti 2005: 3 - 13)

After obtaining the answers from each country, the OECD added ten additional data points from their own studies.

The regulations for each specific area were counted and weighed according to their importance. Then, the scientists summarised the data into 16 low-level indicators (e.g. for ownership barriers, price controls). (Conway; Janoud; Nicoletti 2005: 3 - 13)

These low-level indicators were then once again weighed and aggregated into higher-level indicators (e.g. for explicit barriers on trade and investment, or administrative burdens on start-ups). For this purpose, the OECD-experts used the “principal component analysis”. This mathematical method, serves to simplify and aggregate data in a way that it is more likely to be representative also for unobserved phenomena. Hence, it improved the model quality of the indicators. (Smith 2002: 1 – 26)

Finally, the higher-level indicators were combined into one Product Market Regulation indicator for each country. A higher value on this indicator denotes a higher extent of market regulations. (Conway; Janoud; Nicoletti 2005: 3 - 13)

Of course, the classification, categorisation, and weighing of market regulations is to some extent arbitrary and subjective. It always remains a certain degree of discretion, which can be used differently by each scientist. Nevertheless, the OECD-indicator is the best available summarisation of market regulations and comprises all areas that I have subtracted from the theories in the first part of this thesis.

Methods of data analysis

My basic assumption for this hypothesis was that a high score on the PMR, indicating a high level of market regulation, is positively correlated with a low score on the CPI, which indicates a high level of corruption.

Hence, I have ranked the countries of my test from low to high according to their values on the PMR and CPI, assigning rank one to the countries with the lowest degree of market regulations or corruption.

As units of observation, I have chosen the 28 countries for which both indicators existed. In order to improve the validity of the data, I have conducted the statistical analysis for the two years for which the PMR-Indicators are available - 1998 and 2003.

Results of the analysis

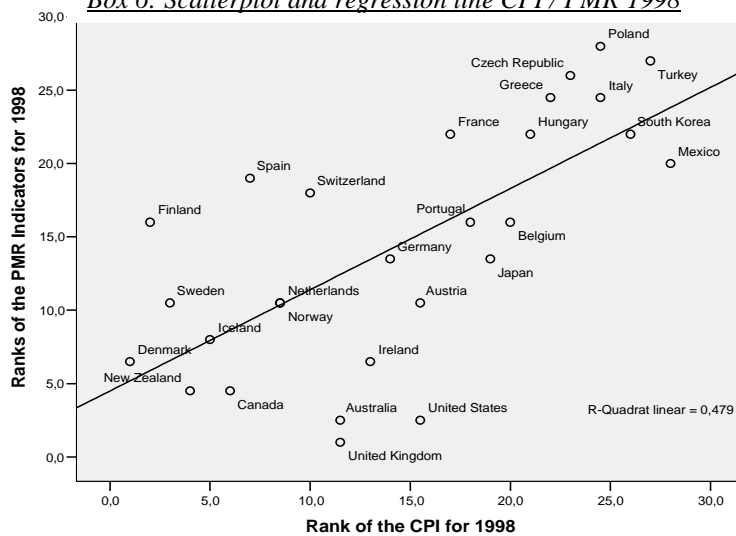
For both years, I have found an astonishingly strong positive correlation between the two indices. In 1998, the correlation was 69.2 % and in 2003 even 74.8 %. Furthermore, the findings exhibit a significance level of one per cent, indicating that the correlation is unlikely to have been caused by chance.

Sub-conclusion

The analysis validated this hypothesis; a low degree of market regulations seems to hinder corruption. In fact, market regulations are probably a very important factor influencing the degree of corruption in a country.

If you have a look at the scatterplots and the regression lines, you will also find some extreme outliers. For both examined years, Australia, the United States, and the United Kingdom ranked very low on the PMR scale but not accordingly low for the dependent variable. Nevertheless, they all still had a very low level of corruption. This indicates that a liberal economy can only reduce the amount of corruption to a certain

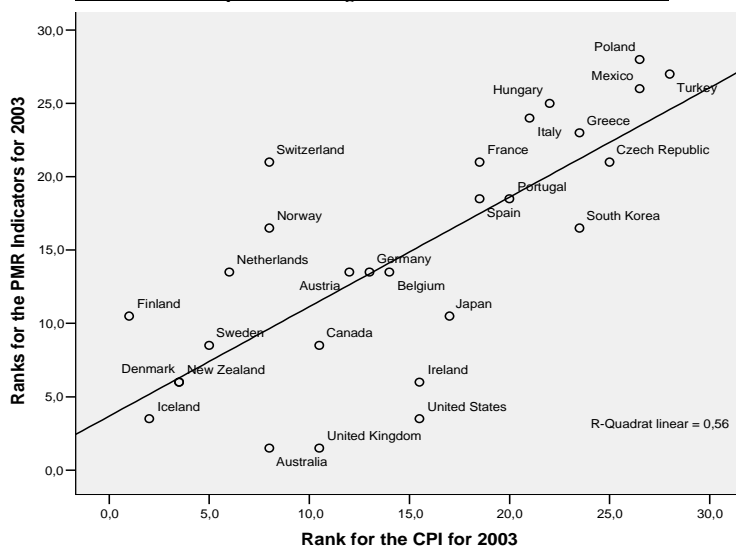
Box 6: Scatterplot and regression line CPI / PMR 1998



extent; other factors have to be regarded as well.

On the other side of the regression line, there were no similar extreme outliers. In 1998, Finland and Spain ranked relatively high on the PMR scale but showed a low degree of corruption. In 2003, Spain further increased its market regulations and accordingly its level of corruption,

Box 7: Scatterplot and regression line CPI / PMR 2003



now lying exactly on the regression line. Meanwhile, Finland reduced its market regulations, probably to fulfil the Copenhagener Criteria, and improved its rank on the CPI scale from number two to number one, too. This supports the hypothesis. However, one has to be cautious with rapid changes of the CPI. The CPI measures the perception of corruption. Thus, it

could be shortly altered by one prominent case of corruption in a country.

The outliers also underline the assumption that there is no exclusive causality but that the level of corruption is always influenced by a number of factors. For further

researches, I would recommend to conduct in-depth case studies on the outliers, including time line analyses.

Nevertheless, the correlation analysis revealed that the degree of market regulations is one of the main explanatory variables.

Box 8: Tabulated summary of chapter 4.1.2

Dependent variable	Extent of Corruption
Indicator to measure the dependent variable	Corruption Perception Index for 1998 and 2003
Data source	Transparency International
Independent variable	Extent of public market regulations
Indicator to measure the independent variable	Product Market Regulation Index for 1998 and 2003
Data source	OECD
Underlying assumption	High score on the PMR indicator \Leftrightarrow low score on the CPI
N	28
Spearman Rank Correlation Coefficient	1998: 0.692 (69.2 %) 2003: 0.748 (74.8 %)
Level of significance	1998: 0.01 (1 %) 2003: 0.01 (1 %)

4.2 Empirical Tests on the Cost Side of Corruption

In the following, I will conduct some empirical tests on two of the hypotheses about the cost side of corruption. As in the previous sub-chapters, I will describe the used indicators and data, the methodological procedure, present the results and conclusions and provide a tabulated summary.

4.2.1 Hypothesis: High Societal Hierarchies Promote Corruption

In this chapter, I will try to find out if a correlation exists between the levels of hierarchy and corruption in a society. As an indicator for the level of societal hierarchies in a country, I used Hofstede's Power Distance Index. These indicators do not only try to measure the degree of hierarchy in a society, defined as inequality in power and wealth, but also the acceptance of it. (for complete data see Appendix III)

The Power Distance Index

In his book "Culture's Consequences" (1980), the Dutch economist Geert Hofstede tried for the first time to measure the concept of Power Distance. The aim of his cross-national studies was to provide an overview of the differences in values and norms that have to be regarded for business strategies. Thus, he conducted researches in a multinational company. Later, these studies were broadened onto more companies, students, airline pilots, civil service managers, up-market consumers, and other organisations and professions.

Now then, what exactly is power distance? According to Hofstede, it depicts the extent to which a boss can determine the behaviour of his subordinate in a hierarchy. (Hofstede 1984: 70 - 72)

Consequently, the Power Distance Indicator measures "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally". Hence, to which degree they accept hierarchies. (Hofstede 2006) Hofstede believes that there is a certain level of power distance in every country, which is determined by the social environment. Therefore, the PDI shall not only measure the hierarchies in the tested groups but also represent the whole society. (Hofstede 1984: 73 – 76)

In order to compile the data for the PDI, Hofstede has conducted surveys in companies, public agencies, universities, and many other organisations. In the questionnaires, the participants were asked to judge the level of hierarchy in their organisation. One of these questions was, for instance: "How frequently, in your opinion, does the following problem occur: employees being afraid to express disagreement with their managers?" (Hofstede 2006) They were also asked about the managing style of their bosses, if they had a consultative or rather top-down approach, and many other similar questions. Each answer was given a certain score; the scores of all answers

were summarised into one indicator per country. To validate his results, Hofstede compared his findings to the findings of similar studies and found a high correlation. (Hofstede 1984: 39 – 110)

Nevertheless, one has always to remain sceptical about “measuring” qualitative concepts. One could define hierarchy slightly different or give more importance to certain kind of hierarchies. It surprised me, for instance, that Germany was described as one of the most egalitarian countries of the world; I had the fortune to study at a German and a Dutch university and found the former far more hierarchical because of the high importance that was given to academic titles. According to Hofstede, Germany is a career-focused society and thus, hierarchy is often exercised by pressure on the career. This could explain the focus on professional titles. However, this example shows how certain kinds of hierarchies may seem to be more obvious and important than others. (Hofstede 1984: 70)

Furthermore, the PDI only summarises findings for a limited number of organisations and groups. Therefore, one may be doubtful if these represent the whole society. Especially the attitudes of unemployed and blue-collar workers are sparsely researched. Despite all necessary doubts, the PDI is the best available indicator to measure hierarchies across a large number of countries. In my opinion, it is the ideal indicator for my purposes because it measures the acceptance for inequalities in power and wealth. Thus, a high score on the PDI of a country would mean that power and wealth are distributed very unequally; and that this inequality is seldom doubted. This fits perfectly to the concept of corruption promoting hierarchical structures as described by Alemann (see above).

In addition, Husted has conducted analyses similar to mine and found a correlation between the PDI and the perception of corruption in his case studies on Latin American countries. He reasons similar to Alemann to explain this correlation: “For Latin Americans, leaders deserve special privileges and benefits because they embody what is good for society”, (Husted 2002: 416)

Methods of data analysis

For my analysis, I assumed that a high score on the PDI, indicating a high level of societal hierarchies, is positively correlated with a low score on the CPI, which indicates a high level of corruption.

Hence, I have ranked the countries of my test from low to high according to their values on the PDI and CPI, assigning rank one to the countries with the lowest degree of societal hierarchies or corruption.

The analysis comprised the 49 countries for which the PDI and as well the CPI were available. Unfortunately, the PDI has not explicitly been compiled for a specific year but for a longer period. Therefore, I compared the PDI, which was last updated by Hofstede in 2001, to the CPI of 2001. Furthermore, I conducted analyses with the CPIs of 1998 and 2003 in order to validate my findings.

Results of the analysis

The results of the statistical analyses showed a medium to strong correlation between the CPI and the PDI. For the CPI of 2001, the correlation was 67.8 %; the findings for 1998 (68.3 %) and 2003 (68.1 %) deviated only slightly. All findings were significant at the one per cent level, indicating that the correlations are unlikely to have been caused by chance.

Sub-conclusion

Apparently, the analyses validated this hypothesis as well; CPI and PDI are positively correlated.

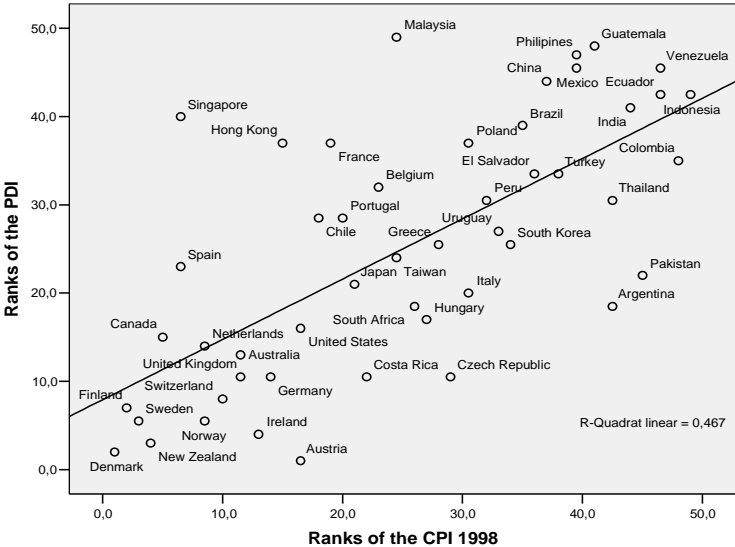
Of course, there were some extreme outliers. In 1998, 2001 and 2003, three Asian states had a very high rank on the PDI score but not an accordingly high degree of corruption. Two of these states, Singapore and Malaysia, were neighbouring states and the third one was Hong Kong. These findings could suggest a cultural similarity in the three countries, which prevents corruption. Maybe an extraordinary high degree of hierarchy reduces the level of corruption; this could be a good explanation specifically for the law and order state Singapore. Likewise, the public officials in these countries could have a very strong esprit de corps or moral standards. However, these are only assumptions that would have to be researched in further case studies.

On the other side, the Czech Republic, Pakistan and Argentina had a relatively high extent of corruption compared to the low degree of prevalent hierarchy. Considering this mixture of countries, a cultural explanation seems unlikely.

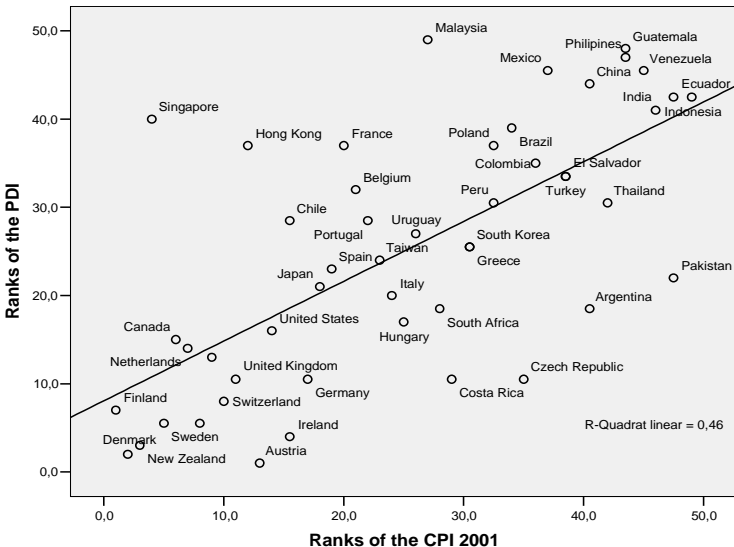
Again, other factors could account for these outliers. Argentina, for instance, went through years of economic and political turmoil in this period that reached its peak in the monetary breakdown in 2001.

All these assumptions have to be checked in further researches. Nonetheless, the outliers do not disqualify the correlations. The degree of societal hierarchies seems to promote the degree of corruption in a country.

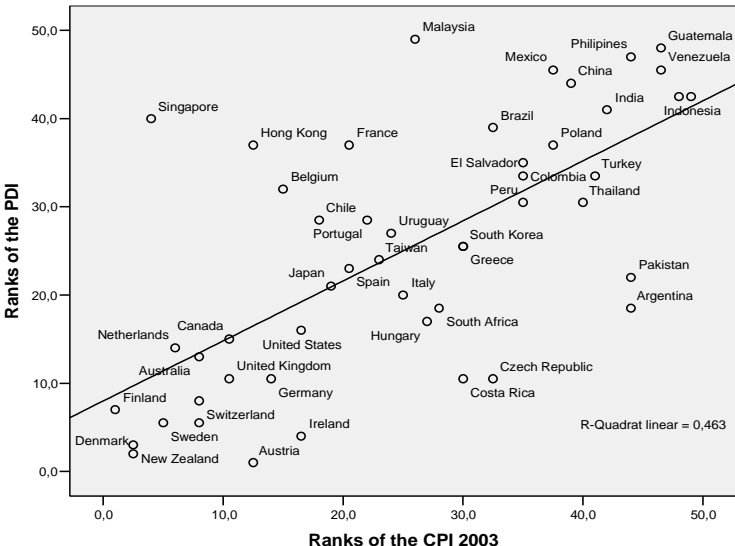
Box 9: Scatterplot and regression line CPI / PDI 1998



Box 10: Scatterplot and regression line CPI / PMR 2001



Box 11: Scatterplot and regression line CPI / PMR 2003



Box 12: Tabulated summary of chapter 4.2.1

Dependent variable	Extent of Corruption
Indicator to measure the dependent variable	Corruption Perception Index for 1998, 2001, and 2003
Data source	Transparency International
Independent variable	Extent of societal acceptance for hierarchies
Indicator to measure the independent variable	Power Distance Index
Data source	Geert Hofstede
Underlying assumption	High score on the PDI ⇔ low score on the CPI
N	49
Spearman Rank Correlation Coefficient	1998: 0.683 (68.3 %) 2001: 0.678 (67.8 %) 2003: 0.681 (68.1 %)
Level of significance	0.01 (1 %)

4.2.2 Hypothesis: Public Sector Wages, which are lower Than Wages for Similar Activities in the Private Sector Favour Corruption

Cross-national data on public sector wages are rare; the World Bank provides some of these rare statistics in an internet database.

It is not feasible to compare the average government wages to similar activities in the private sector because the work of public officials includes very different areas like policing and military activities as well as office work. Thus, it is difficult to find data on similar activities. Van Rijckeghem and Weder, for instance, have conducted an analysis on the correlation between corruption and the ratio of government wages to manufacturing wages. (Van Rijckeghem; Weder 2001) However, as the World Bank argues, such comparisons are biased because “manufacturing workers tend to be blue collar workers while central government workers tend to be white collar workers.” (World Bank 2006)

Because comparisons to similar activities could not be conducted due to a lack of appropriate data, the next best possibility was a comparison to the per capita GDP. Therefore, I compared the World Bank figures on average government wages to per capita GDP to the CPI. In my opinion, it is better to use a broad comparator than an incorrect one. (for complete data see Appendix IV)

Average Government Wages to Per Capita GDP

The World Bank compiled statistics about the “sum of wages and salaries paid to civilian central government and the armed forces”. (World Bank 2006) In order to find out the average government wage for each country, the total sum of wages and salaries was divided by the number of employees in the researched areas. Then, the achieved figures were divided by the countries’ GDP per capita estimate. According to the World Bank, “this is meant to convey information about the condition of an average central government employee in relation to living standards in that country.” (World Bank 2006)

Of course, it is critical to use this data because it only includes figures on central government administration and military forces and not on provincial or municipal employees. Nonetheless, these data should be sufficient to find out if a significant correlation exists. Once aggregated data is also available for other areas of the public sector further studies could try to validate my findings.

Methods of data analysis

In this analysis, I presumed that a low ratio of wages compared to the GDP would be positively correlated with a low score of the CPI and thus, a high level of corruption. Accordingly, I have assigned the lowest ranks to countries with the lowest wage ratios and CPI scores.

At first, I wanted to use the OECD member countries as units of observation but I soon realized that data for many of these countries was missing. On that account, I have checked the database for all the countries that I have used in the last analysis and found data for 27 of them.

The statistics for the wage ratios summarise the period from 1996 to 2000. Unfortunately, the CPI is only available since 1998. For this reason, my analyses comprised the CPIs of 1998, 1999, and 2000.

Results of the analysis

All correlation analyses showed only a very small negative correlation with even lower significance. Thus, a considerable connection between the two variables could not be confirmed.

Sub-conclusion

According to my findings, the hypothesis could not be validated. I did not find a significant correlation between the average government wage to per capita GDP ratio and the CPI.

Van Rijckeghem and Weder come to a different conclusion. They found “a statistically and economically significant relationship between relative civil-service pay and corruption in regression based cross-country averages.” (Van Rijckeghem; Weder 2001: 1) However, their research design was very different from mine. They conducted the analysis only on developing and low-income countries, tried to control for a number of other variables like the probability of corruption detection, and used the average government wage compared to the average manufacturing wage as comparator for the explanatory variable.

One could criticise, that they calculated with many vague estimators (for instance for the probability of detection) and the manufacturing wages as comparator.

On the other side, they used a specifically elaborated dataset and statistically more sophisticated methods while I estimated a correlation only with the Spearman Rank Correlation Coefficient because I had ordinal data.

Nevertheless, according to my findings this hypothesis could not be validated. In order to check against Van Rijckeghem and Weder’s findings, I conducted another correlation analysis in which I excluded all high-income countries. This test comprised 14 countries; but I could not find any relevant correlation (see Appendix...).

Box 13: Tabulated summary of chapter 4.2.2

Dependent variable	Extent of Corruption
Indicator to measure the dependent variable	Corruption Perception Index for 1998 - 2000
Data source	Transparency International
Independent variable	Height of public sector wages compared to similar activities
Indicator to measure the independent variable	Average government wage to per capita GDP ratio 1996 - 2000
Data source	ILO
Underlying assumption	Low per capita ratio ⇔ high score on the CPI
N	27
Spearman Rank Correlation Coefficient	1998: -0.268 (- 26.8 %) 1999: -0.238 (- 23.8 %) 2000: -0.244 (- 24.4 %)
Level of significance	1998: 0.176 (17.6 %) 1999: 0.233 (23.3 %) 2000: 0.220 (22.0 %)

5. Conclusion

Two of the hypotheses could be validated. The degree of market regulations and acceptance for societal hierarchies apparently are factors that influence the prevalent extent of corruption in a country. My findings indicate a positive linear relation; the level corruption in a country increases with the level of market regulations and societal hierarchies. Seemingly these two explanatory variables are related as well. The analysis reveals a correlation of 61,7 % (for complete data see Appendix V). Hence, the correlation between each explanatory and the dependent variable is still higher. Therefore, it cannot exist a causal chain in which one of the independent variables accounts for the other. Regarding the high correlations with the level of corruption, a third unobserved variable seems unlikely because it would have to show an even higher correlation. Thus, multicollinearity is most likely. Possibly, national cultures with strong hierarchies do not tolerate equality in their economic systems and favour certain groups by regulations.

Whereas, the height of wages in the public sector compared to the GDP and the size of the public sector revenues and expenditures seemingly have no influence.

Moreover, my findings also show that there is not one exclusive cause for corruption; in each correlation analysis I have also found a number of extreme outliers. Probably, the level of corruption in each country is determined by a number of factors. This does not mean that general factors cannot be distinguished but that policy makers should analyse the local “mixture” of causes in their context. One size fits all-solutions are not likely to work.

The theories of New Institutional Economics offer a good analysis tool by differentiating between the revenue and expenditure side of corruption. The theories can incorporate many different factors. However, the all-comprising character has also a pitfall; the theories can never be tested as a whole but only the hypotheses they contain. Therefore, the biggest advantage of the theories of New Institutional Economics is their heuristic character.

Unfortunately, many of the hypotheses still lack a profound empirical foundation. In my thesis, I could validate only two hypotheses; in order to provide a sound analytical tool, the cost-revenue table should be filled with further empirically tested factors. The theories should be anchored in the reality and concentrate on observable factors.

To answer the main research question - yes, the theories of New Institutional Economics can explain at least some of the factors that influence the level of corruption and offer a comprehensive tool to analyse the composition of factors in a certain country. However, this tool has to be improved by further empirical testing.

Accordingly, coming researches could try to validate more hypotheses by cross-national analyses. In-depth case studies could be used to explain the statistical outliers and to use the theories as a tool for interpreting the prevalence of corruption in a certain country.

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Appendix I (chapter 4.1.1)

Results of the Correlation Analysis for 1998

Revenues

			Rank of the CPI 1998	Rank of Gov- ernment Reve- nues as % of GDP 1998
Spearman-Rho	Rank of the CPI 1998	Correlation Coefficient	1,000	-,276
		Significance	.	,239
		N	20	20
	Rank of Government Revenues as % of GDP 1998	Correlation Coefficient	-,276	1,000
		Significance	,239	.
		N	20	20

Expenditures

			Rank of the CPI 1998	Rank of Gov- ernment Ex- penditures as % of GDP 1998
Spearman-Rho	Rank of the CPI 1998	Correlation Coefficient	1,000	-,106
		Significance	.	,656
		N	20	20
	Rank of Government Expenditures as % of GDP 1998	Correlation Coefficient	-,106	1,000
		Significance	,656	.
		N	20	20

Results of the Correlation Analysis for 2003

Revenues

			Rank of the CPI 2003	Rank of Gov- ernment Reve- nues 2003 as % of GDP
Spearman-Rho	Rank of the CPI 2003	Correlation Coefficient	1,000	-,622(**)
		Significance	.	,001
		N	24	24
	Rank of Government Revenues 2003 as % of GDP	Correlation Coefficient	-,622(**)	1,000
		Significance	,001	.
		N	24	24

** The correlation is significant on the 0,01 level (two-sided).

Expenditures

			Rank of the CPI 2003	Rank of Gov- ernment Ex- penditures 2003 as % of GDP
Spearman-Rho	Rank of the CPI 2003	Correlation Coefficient	1,000	-,375
		Significance	.	,071
		N	24	24
	Rank of Government Expenditures 2003 as % of GDP	Correlation Coefficient	-,375	1,000
		Significance	,071	.
		N	24	24

Appendix II (chapter 4.1.2)

Results of the Correlation Analysis for 1998

			Rank of the CPI for 1998	Ranks of the PMR Indicators for 1998
Spearman-Rho	Rank of the CPI for 1998	Correlation Coefficient	1,000	,692(**)
		Significance	.	,000
		N	28	28
	Ranks of the PMR Indica- tors for 1998	Correlation Coefficient	,692(**)	1,000
		Significance	,000	.
		N	28	28

** The correlation is significant on the 0,01 level (two-sided).

Results of the Correlation Analysis for 2003

			Rank for the CPI for 2003	Ranks for the PMR Indicators for 2003
Spearman-Rho	Rank for the CPI for 2003	Correlation Coefficient	1,000	,748(**)
		Significance	.	,000
		N	28	28
	Ranks for the PMR Indica- tors for 2003	Correlation Coefficient	,748(**)	1,000
		Significance	,000	.
		N	28	28

** The correlation is significant on the 0,01 level (two-sided).

Appendix III (chapter 4.2.1)

Results of the Correlation Analysis for 1998

			Ranks of the CPI 1998	Ranks of the PDI
Spearman-Rho	Ranks of the CPI 1998	Correlation Coefficient	1,000	,683(**)
		Significance	.	,000
		N	49	49
	Ranks of the PDI	Correlation Coefficient	,683(**)	1,000
		Significance)	,000	.
		N	49	49

** The correlation is significant on the 0,01 level (two-sided).

Results of the Correlation Analysis for 2001

			Ranks of the CPI 2001	Ranks of the PDI
Spearman-Rho	Ranks of the CPI 2001	Correlation Coefficient	1,000	,678(**)
		Significance	.	,000
		N	49	49
	Ranks of the PDI	Correlation Coefficient	,678(**)	1,000
		Significance	,000	.
		N	49	49

** The correlation is significant on the 0,01 level (two-sided).

Results of the Correlation Analysis for 2003

			Ranks of the CPI 2003	Ranks of the PDI
Spearman-Rho	Ranks of the CPI 2003	Correlation Coefficient	1,000	,681(**)
		Significance	.	,000
		N	49	49
	Ranks of the PDI	Correlation Coefficient	,681(**)	1,000
		Significance	,000	.
		N	49	49

** The correlation is significant on the 0,01 level (two-sided).

Appendix IV (chapter 4.2.2)

Results of the correlation analysis for 1998

			Rank avg. govern. wage to per capita GDP ratio 1996 - 2000	Rank of the CPI 1998
Spearman-Rho	Rank avg. govern. wage to per capita GDP ratio 1996 - 2000	Correlation Coefficient	1,000	-,268
		Significance	.	,176
		N	27	27
	Rank of the CPI 1998	Correlation Coefficient	-,268	1,000
		Significance	,176	.
		N	27	27

Results of the correlation analysis for 1999

			Rank avg. govern. wage to per capita GDP ratio 1996 - 2000	Rank of the CPI 1999
Spearman-Rho	Rank avg. govern. wage to per capita GDP ratio 1996 - 2000	Correlation Coefficient	1,000	-,238
		Significance	.	,233
		N	27	27
	Rank of the CPI 1999	Correlation Coefficient	-,238	1,000
		Significance	,233	.
		N	27	27

Results of the correlation analysis for 2000

			Rank avg. govern. wage to per capita GDP ratio 1996 - 2000	Rank of the CPI 2000
Spearman-Rho	Rank avg. govern. wage to per capita GDP ratio 1996 - 2000	Correlation Coefficient	1,000	-,244
		Significance	.	,220
		N	27	27
	Rank of the CPI 2000	Correlation Coefficient	-,244	1,000
		Significance	,220	.
		N	27	27

Results of the correlation analysis for 1998 (excluded high-income countries)

			Rank of the Average Government Wage to per capita GDP ratio 1996 - 2000	Rank of the CPI 1998
Spearman-Rho	Rank of the Average Government Wage to per capita GDP ratio 1996 - 2000	Correlation Coefficient	1,000	-,084
		Significance	.	,776
		N	14	14
	Rank of the CPI 1998	Correlation Coefficient	-,084	1,000
		Significance	,776	.
		N	14	14

All countries which are defined as high-income countries according to the World Bank were excluded from this analysis.

For a definition of high-income see:

<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402~menuPK:64133156~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>

Results of the correlation analysis for 1999 (excluded high-income countries)

			Rank of the Average Government Wage to per capita GDP ratio 1996 - 2000	Rank of the CPI 1999
Spearman-Rho	Rank of the Average Government Wage to per capita GDP ratio 1996 - 2000	Correlation Coefficient	1,000	-,050
		Significance	.	,866
		N	14	14
	Rank of the CPI 1999	Correlation Coefficient	-,050	1,000
		Significance	,866	.
		N	14	14

All countries which are defined as high-income countries according to the World Bank were excluded from this analysis.

For a definition of high-income see:

<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402~menuPK:64133156~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>

Results of the correlation analysis for 2000 (excluded high-income countries)

			Rank of the Average Government Wage to per capita GDP ratio 1996 - 2000	Rank of the CPI 2000
Spearman-Rho	Rank of the Average Government Wage to per capita GDP ratio 1996 - 2000	Correlation Coefficient	1,000	-,111
		Significance	.	,705
		N	14	14
	Rank of the CPI 2000	Correlation Coefficient	-,111	1,000
		Significance	,705	.
		N	14	14

All countries which are defined as high-income countries according to the World Bank were excluded from this analysis.

For a definition of high-income see:

<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402--menuPK:64133156--pagePK:64133150--piPK:64133175--theSitePK:239419,00.html>

Appendix V (Chapter 5)

Results of the Correlation Analysis for 1998 and 2003

			PMR 1998	PMR 2003	PDI
Spearman-Rho	PMR 1998	Correlation Coefficient	1,000	,927(**)	,617(**)
		Significance	.	,000	,001
		N	28	28	27
	PMR 2003	Correlation Coefficient	,927(**)	1,000	,617(**)
		Significance	,000	.	,001
		N	28	28	27
	PDI	Correlation Coefficient	,617(**)	,617(**)	1,000
		Significance	,001	,001	.
		N	27	27	49

** ** The correlation is significant on the 0,01 level (two-sided).