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**Rigorózní práce**

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## **Rigorózní práce**

Management Efficiency and Company Performance in the  
Czech Republic – Empirical Survey and a Practical Case

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**Prohlášení:**

**Prohlašuji, že jsem rigorózní práci vypracoval samostatně a použil pouze uvedené  
prameny a literaturu**

**V Praze dne**

**podpis studenta**

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David Hofman

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<sup>1</sup> In alphabetical order

## ABSTRACT:

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This paper focuses on the determinants of company performance transforming economies in general and on the relatively rarely discussed managerial abilities among them in particular. The study focuses Czech specifics at the end of the 1990's. The second part of this study looks at an example of a green field investment of a foreign company in the Czech Republic. This case study builds on the results of theoretical review and empirical research conducted by the author.

The empirical part of this paper builds upon an original dataset stemming from field research activities by a team lead by the author on behalf of Texas A&M University and Georgetown University in the course of 2002. The resulting sample includes 163 companies.

The author has primarily focused on value added that the inclusion of managerial effectiveness may bring to the explanation of company performance uses the results of the field research to test the following hypotheses concerning the relationships between the occurrence of highly effective management teams and surrounding conditions:

Hypothesis 1: Management skills, experience and practices do contribute significantly to company performance in transition economies.

Hypothesis 2: Firm specific factors such as ownership type and structure, international linkages, managerial turnover and others have effect on the presence of critical managerial skills among the top management team.

Hypothesis 3: The characteristics and traits of the top management team as measured by proxy indicators influence the direction and extent of restructuring efforts in the company as well as their effect on company performance.

Empirical results verify all the hypotheses.

The second part of this paper is constituted by a case study of a company where the author serves on the crisis management team. Despite the background of the company in question is different from that of Czech companies that have undergone transformation, factors influencing its performance have surprisingly similar effects.

The author concludes that when a company with excellent business outlook is exposed to factors such as diminishing market and rapidly increasing input costs, a clash of management cultures will prevent it from effectively reacting to these rapid changes and it will soon start experiencing problems similar to those that companies in transformation economies have had.

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## ABSTRAKT:

Tato práce se zaměřuje na determinanty výkonnosti firem v transformačních ekonomikách a zejména na v literatuře doposud pouze zřídka diskutovaný faktor – schopnosti manažerských týmů. Práce se zaměřuje na tato specifika v kontextu České republiky na konci devadesátých let minulého století.

Ve své první, empirické, části, staví práce na vlastním originálním vzorku dat, který pochází z dotazníkového šetření provedeného týmem vedeným autorem pro Texas A&M University a Georgetown University v průběhu roku 2002 mezi českými společnostmi. Výsledný vzorek čítá 163 subjektů.

Autor se zaměřil na míru přidané hodnoty, kterou zkoumání manažerské efektivity přináší a testuje specifické hypotézy ohledně vztahů mezi schopnostmi manažerských týmů, výkonností podniků a prostředím, které může motivovat manažery k lepším výkonům či podporovat jejich výskyt.

Autor testuje hypotézy o signifikaci vlivu manažerských schopností na výkonnost firmy, vlivu vlastnické struktury, mezinárodních aliancí, rotace manažerů a dalších na koncentraci manažerů

vybavených kritickými schopnostmi ve firmě a vliv kombinací manažerských schopností vedoucích pracovníků a dalších firemních proměnných na míru a typ restrukturalizace.

Hlavní hypotéza signifikaci vlivu manažerských schopností na výkonnost firmy i vedlejší hypotézy jsou potvrzeny.

Druhá část práce je tvořena případovou studií založenou na osobní zkušenosti autora jako člena týmu krizového řízení při restrukturalizaci zahraniční společnosti podnikající v České republice. Srovnáním výsledků jiných autorů, vlastního empirického výzkumu a závěrů ze zmíněné případové studie potvrzuje autor vysokou důležitost manažerských schopností vedení společnosti v situacích kdy společnost čelí výrazným změnám v okolním prostředí. Těmito mohou být například kolaps trhu spojený s propadem cen vlastních výrobků a skokově rostoucí ceny vstupů. V takových případech se na výsledcích hospodaření firmy ještě více projeví schopnost manažerského týmu

## TABLE OF CONTENTS:

A note on the source of data and research design.....	9
Chapter 1 Foreword .....	10
Chapter 2 The state of prior research.....	11
2.1 Ownership and governance.....	11
2.1.1 Private vs. state.....	13
2.1.2 Insider vs. Outsider.....	14
2.1.3 Concentrated vs. Dispersed.....	16
2.1.4 Foreign vs. Domestic.....	19
2.2 International linkages.....	20
2.3 Competition .....	24
2.4 Management .....	26
2.5 Literature review – Conclusions.....	28
Chapter 3 Hypotheses.....	30
Chapter 4 The Dataset.....	32
4.1 Desired characteristics of the dataset.....	32
4.2 Dataset consolidation .....	35
4.3 Variables .....	36
Chapter 5 Data Analysis and verification of Hypotheses.....	38
5.1 Selection of functional form .....	38
5.1.1 The choice of dependent variable .....	39
5.1.2 The choice of functional form .....	40
Chapter 6 The empirical results .....	47
6.1 Regression analysis results.....	47
6.2 Correlation analysis:.....	48
6.2.1 Effects on performance.....	48
6.2.2 Effects on restructuring.....	49
6.2.3 Effects on concentration of managerial skills within the company ....	51
Chapter 7 Case study on the effects of management efficiency on company performance - LG. Philips Displays .....	52
7.1 The prospect of a good business .....	52
7.2 Market developments and LPD response.....	55
7.3 Management specifics and their effects .....	56
7.4 Insolvency and Restructuring.....	58
Chapter 8 Conclusion .....	62

Appendix 1	Construct variables and selected important primary variables .....	66
Appendix 2	Complete listing of variables and associated questions.....	73
Appendix 3	Results of regression and other data analyses.....	82
Appendix 4	Results of cross-regressions between explanatory variables.....	86
Appendix 5	General Conceptual model.....	89
Appendix 6	Questionnaire used in the field survey as sent to executives.....	90
References	.....	98



## **A note on the source of data and research design**

The author would in a few points like to address the nature and identify the major intellectual property rights and credits associated with the dataset, its collection and research design underlying this paper.

- The initial research design and master version of the questionnaire used for field research was done by Professors Klaus Uhlenbruck, Texas A&M University and Stanley Nollen, Georgetown University.
- The author has made use of knowledge of business environment in the Czech Republic and contributed to the fine tuning of the questionnaire, its translation and has organized a pilot project to test the research design in the course of May 2002.
- The author has lead and was entirely responsible for a 10 member research team doing the field work with companies between July and November 2002, lead the design of and implemented an electronic database with wireless access used for data collection and sharing.
- Funding for the whole project was in its provided by Department of Management at Texas A&M University with personal contributions by Professor Stanley Nollen from Georgetown University in Washington, DC.
- The author would like to thank the holders of the IPR associated with this dataset for the ability to use it for the purpose of writing this paper.

## Chapter 1 FOREWORD

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As unprecedented scale privatizations in Central and Eastern Europe are almost completed after fifteen years of transformation process most of the countries in Central and Eastern Europe (CEE) and former Soviet Union converge to what we call developed western countries and transformation pace slows down.

The transformation period was far harder and took much longer time than it has been expected in the beginning of the nineties by both the governments and companies. Despite the process is has not come to absolute completion, as yet, there already is an extensive body of evidence that allows us to examine the results. Just as governments have changed on the path to more efficient and comprehensive institutions, so have businesses. Their performance after the fifteen years of operation in the newly created market economies is one of the transformation results that we intend to examine here.

Companies in transition had to adapt at an immense pace to an unprecedented change in their operating environment. Not only that, the hole purpose of existence of businesses has changed from fulfilling production quotas and employing people to the more standard one of profit-making for its shareholders.

Even when controlling for exogenous factors [initial state, ownership, industry characteristics, international influence etc.] and resulting adaptation path differences, companies have fared differently in the turbulent environment. This study looks at the four most important and often examined groups of factors that have been identified as major components of company performance in transition and which include Ownership and corporate governance, International linkages, Competition and Management characteristics.

While a considerable amount of research has been conducted to support theoretical claims in these four categories, the attention of researchers certainly

has not been spread evenly among them. As privatizations, ownership changes on a truly massive scale had been taking place; researchers have quite naturally primarily focused on direct and associated effects of such ownership changes. These included the effects of different degrees of ownership concentration, owner identity, entry of foreign strategic investors both into companies under scrutiny as well as foreign companies' entry of the market where the examined companies operated. Much less has been written on the nature of skills essential for business success and their transfer to managers in transition economies who lacked them. Also very little has been written about the degree to which managerial skills and characteristics can as one of the key factors contribute to the explanation of company performance.

The motivation of this research is to fill in some of these blanks and to answer some of the questions that prior theoretical and empirical work left unanswered.

We also include a case study that shows the importance of management team efficiency for company performance. The case deals with a seemingly perfect joint venture between two companies with distinct management cultures the clash of which has later led to huge financial losses.

## **Chapter 2 THE STATE OF PRIOR RESEARCH**

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### **2.1 Ownership and governance**

Ownership concentration and identity are perhaps the most discussed among the determinants of company performance in transition economies. Authors mainly distinguish between state and private, domestic and foreign, insider and outsider owners and combinations thereof.

In the turbulent environment of transition economies, most convincing theoretical arguments that relate the firm's ownership to its performance favor concentrated over dispersed ownership up to a point, private over state

ownership, outsider over insider ownership, and foreign over domestic ownership<sup>2</sup>.

Private owned companies should perform better than state-owned firms because private owners in a market economy are supposed to have profit as their sole objective. State owned firms on the other hand might retain non-commercial objectives such as fulfilling certain employment and / or production levels.

Outsider-owned firms should perform better than insider-owned firms because outside owners are more likely than inside owners to bring fresh ideas and new information, to initiate radical change and act strategically, to bring financial resources, and to evaluate correctly the performance and needs of the firm.<sup>3</sup>

Some degree of ownership concentration is favorable in theory, as agency problem does, especially in the institutionally weak environment of transition economies, constitute a significant barrier to performance improvements. Minority owners with large enough stakes in companies have both the motivation and information-gathering ability to closely monitor the management. In the case of widely dispersed ownership, it is the management that effectively controls the company.

We thus expect the performance of firms with dispersed ownership to be especially dependent on their top management's abilities, and the firm's performance will therefore resemble that of insider-owned firms.<sup>4</sup> In combination with shaky institutional environment, such setup seems to be prone to moral hazard by management.

As far as the difference between domestic and foreign owners is concerned, we discuss it in greater detail in the part devoted to international linkages.

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<sup>2</sup> Nollen 2002

<sup>3</sup> Nollen 2002

<sup>4</sup> Nollen 2002

Previous empirical evidence for transition economies suggest that foreign owned firms perform better but there is no evidence so far that outsider dominated firms perform better than insider (manager or employee) dominated firms.<sup>5</sup>

The wealth of empirical research conducted in the past years with ownership as its focus gives a large body of evidence that often presents interesting contrasts to theoretical conclusions.

We shall in the following part look at the body of evidence studied. Because of the wide scope of research focused on the effects of ownership on company performance, let us look at the four major subcategories in turn. These include the differences between private and state ownership, insider and outsider ownership, the effects of ownership concentration and finally the difference between foreign and domestic ownership.

### ***2.1.1 Private vs. state***

As far as the sole turn of companies into private hands is concerned, privately owned firms achieved better economic performance than state-owned firms in some studies (Carlin et. al. 2001, Frydman et. al. 1999, Kocenda & Svejnar 2002, Bevan et. al 2002),

Claessons, Djankov, 1999 argue that firms privatized in the first round also were better performers, perhaps because they had more time to restructure. Reasons for better performance of private firms also include arguments of reverse causality such as the one brought by Estrin, Angelucci (2003) who also found positive correlation between monopoly power and private ownership as (domestically) strong companies were sold first.

Others have reported decreases in performance. Ausenegg and Jelic (Nov 2002) for example, who looked at companies in Poland, Hungary and Czech

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<sup>5</sup> Djankov 1999

Republic and examined profitability and operating efficiency, have come with findings different from theoretical conclusions. In their findings 72 percent companies have in the post-privatization period experienced decreases in profitability and only 50 percent have seen increases in capital investment spending.

Estrin and Rosevear in their two studies<sup>6</sup> focused on Ukrainian companies bring mixed results. On the one hand, private ownership was not associated with higher profitability or productivity, positive effects were on the other hand seen in the area of input restructuring.

Harper (2001) looked at privatization effects on Czech company efficiency and profitability and contrary to previous findings from other countries, efficiency and profitability decreased immediately after privatization. However, employment decreased indicating a step toward increased efficiency, and service firms outperformed manufacturing firms, probably due to lower fixed costs.

Angelucci (2002) reports that state ownership reduced performance in monopoly markets but increased performance in competitive markets.

Kocenda and Svejnar (2002) confirm the theoretical claims about state owners having other objectives but profit. They observe a concave effect of state golden share on labor costs.

### ***2.1.2 Insider vs. Outsider***

Outsider-owned firms, except foreign-owned firms, were not better performers than insider-owned firms in results that came predominantly from Russia and the former Soviet Republics as reported by (Angelucci et. al. 2002, Djankov 1999b, Estrin & Rosevear 1999a),

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<sup>6</sup> Estrin, Saul & Rosevear, Adam. 1999a and 1999b

Results from Russia in general are different from the rest of CEE and often differ from theoretical predictions.

Buck et. al. (2003) looked on human resource management (HRM) strategies in Russian companies in their relation to ownership identity. Empirical findings have not proven the expected result that traditional welfare strategies<sup>7</sup> associated with insider ownership have negative effects on company performance. It is purely defensive - cost cutting restructuring that has negative effects on performance. Productivity of labor rises with higher investments in human resources and some degree of job-security. Insider ownership is strongly associated with these so called high commitment strategies – traditional social welfare and human resource investments.

Angelucci (2002) compared the effects of outsider and insider ownership did not influence company performance in the particular sample of Russian companies. Angelucci reports that financial constraints adversely affected the performance of all firms and these negative effects were felt less by large and outsider-owned firms.

Estrin, Angelucci (2003) have in their research of Russian companies concluded that insider owners go through more deep restructuring and less defensive restructuring and insiders also have lesser fall in post-privatization productivity. This result is directly contradicted by the findings of Wright et. al. 1998 who reports that deep restructuring in Russian firms was hampered by insider ownership and the absence of sufficient numbers of outside investors.

In contrast, outsider-owned firms in Central Europe engaged in more strategic or deep restructuring than insider or state-owned firms (Frydman et. al. 1999).

Djankov (1999) has in a comparative analysis summed up a whole range of conclusions about the effect of insider ownership. Some studies he reports show that there either is no difference between local insider vs outsider firms or that insider firms perform better (Carlin et al 1995, Smith et al 1997). Other results

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<sup>7</sup> For detailed definition of traditional welfare strategies see Buck et. al. (2003)

countered this claim (Frydman et al 1997, Earle & Estrin 1997, Linz & Krueger 1998, Estrin & Rosevear 1999a, 1999b)<sup>8</sup>.

Djankov's own results suggest that firms where management buyouts took place had better productivity, more asset sales, and undertook more factory renovations than others, with the exception of firms that were voucher privatized and presumed to be controlled by managers.

Last but not least, in line with the general CEE trend Frydman et al. (1999) found that among Czech, Hungarian and Polish companies in the mid-nineties performance of privatized outsider-owned firms<sup>9</sup> was better than either state-owned firms or privatized insider-owned firms, but the performance of insider-owned firms was not different from state-owned firms. Outsider-owned firms had larger growth in sales revenue but their change in unit costs was not different from insider-owned or state-owned firms. This suggests that outsider-owned firms engage in strategic or deep restructuring more than other firms but their defensive restructuring is not different from other firms.

### ***2.1.3 Concentrated vs. Dispersed***

Some statistical analyses found that concentrated ownership among firms was associated with better profitability and productivity (Weiss & Nitikin 1998, who also found that concentrated ownership in the hands of investment funds was not beneficial to performance; Claessons & Djankov (1999), who found an inverted-U relationship between ownership concentration and performance, and Djankov (1999b), who found that manager-owned firms in some newly independent states undertook more restructuring if their ownership stakes were above 30 percent. Other studies found no effect of concentration (Harper 2001, Kočenda 2001)

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<sup>8</sup> In Djankov (1999)

<sup>9</sup> Foreign-owned firms were the most frequent type of outside owner



Filatochev et al (2001) in their survey of Russian companies found that concentration had negative effect on investment as entrenchment effect overrode the incentive effect. In contrast to other studies, ownership effects do not appear to depend on the identity of the largest shareholder. This lead them to an interesting suggestion that at high levels of concentration of ownership, the distinction between outsiders and insiders may become blurred.

Aghion and Tirole 1997<sup>10</sup> on the other hand suggest that when more initiative by managers is desirable, it is better if ownership is dispersed. This also leads to greater liquidity and therefore market capitalizations better reflect the information available on company performance. Dispersed ownership does however require a fairly effective institutional environment in order to mitigate agency issues. Kočenda and Švejnar (2002) refer to Schleifer and Vishny who in their 1996 article relate larger ownership blocks to lesser agency costs.

Kocenda and Svejnar (2002) bring a number of interesting observations related to ownership concentration and identity based on a large sample of Czech companies. Contrary to the widely accepted notion that private ownership leads to a more aggressive restructuring, their results suggest no significant difference. Also interestingly and despite the limitations of Czech institutional environment, dispersed ownership has the largest positive effect given that managers are given maneuvering space. Ownership concentration has a U-shaped effect on labor costs. Owners with higher stakes engage in restructuring mostly in the first post-privatization year.

Weiss and Nikitin in their 1998 study bring contrasting results. As Czech voucher privatization in principal yielded maximum separation of ownership from control, economic performance of firms increased over time if their ownership at the beginning of the period was more concentrated. Investment funds constituted a negative exception.

Claessons and Djankov (1999) concluded that the more concentrated the ownership of Czech companies was, the higher was their profitability and labor

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<sup>10</sup> In Kočenda, Švejnar (2002)

productivity, but the relationship exhibited an inverted U shape as beyond certain concentration level probably lead to wealth extraction at the expense of minority shareholders.

Djankov, (1999) also reports a non-linear effect of ownership concentration. His study shows that foreign-owned firms undertook more restructuring when foreign ownership exceeded 30% stakes, manager-owned firms were more restructured if managers owned a small (10%) or large (over 30%) stake but not at intermediate levels of ownership.

A slightly different example of the effects of ownership concentration can be found in Simonetti and Gregoric (April 2004)<sup>11</sup> who examine the effect of ongoing consolidation of managerial ownership on performance of Slovenian firms. The paper that reports that on one hand, managers that also are shareholders should better perceive business opportunities; on the other hand there are incentives for extraction of private benefits of control. With further increase in their stake, managers may become entrenched. This is the sort of a general positive relationship between managerial ownership and performance including its non-monotonic nature [beyond certain threshold the entrenchment effect outweighs the positive incentive].

Meggison and Netter (June 2001) bring no support for the claim that managerial ownership positively influences long term economic efficiency, there however is some positive effect on financial performance of the share the managers hold, which is later outweighed by planned increases in managerial ownership. This happens in cases where managers who are minority owners [under 10%] have such high ownership ambitions that it leads to lower financial performance due to higher managerial frustration.

In companies where managerial ownership exceeds 10%, it can be expected to have a positive effect on financial performance due to incentives their share provides for managers. Under 10 percent, managers may become frustrated resulting in lower financial performance. The initial ability of managers to reap

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<sup>11</sup> In Megginson and Netter (June 2001)

private benefits of control only prevails when their share exceeds 10% of capital. While the relationship between managerial ownership and performance in developed economies is a positive relationship with diminishing marginal effect, the case of Slovenia shows a u-shaped relationship with a minimum at 15%.

Harper (2001) concluded that ownership concentration did not significantly affect performance of Czech companies, perhaps because bank-controlled investment privatization funds, which were thought to compensate for the inadequate corporate governance resulting from dispersed ownership, were actually not playing an active role in company restructuring.

Kočenda (2001) in another study of Czech companies also states that ownership concentration did not explain change in the firm's performance. Overall there is little evidence as reported in this study that the type of domestic owner affects the firm's performance although some types affect particular performance measures.

Weiss and Nikitkin (1998) in a prior study claim that the economic performance of firms increased over time if their ownership at the beginning of the period was more concentrated but not in the hands of investment funds whether bank-managed or non-bank-managed.

#### **2.1.4      *Foreign vs. Domestic***

Jelic et. al. (2001) assume a positive relationship between foreign ownership and financial performance of companies and their size. This is because foreigners naturally prefer profitable companies where they can have substantial control and also relative to the size there are lower agency costs. This is a sort of reversed causality similar to the one encountered when examining the more general effects of private versus state ownership. Empirical findings do not support the significance of size however.

Claessons and Djankov (1999) report that firms with larger foreign ownership stakes and firms with larger non-bank investment fund stakes had higher profitability and labor productivity, and these effects reduced the significance of the ownership concentration effect.

## 2.2 International linkages

The next major area determining the performance of companies concerns international linkages. These affect companies either directly through ownership links or indirectly as they may be part of supplier-buyer chains. The question that most authors pose themselves is whether significant performance differences exist between foreign owned firms and private domestically-owned or state-owned firms in transition economies.

Theoretical argument points to superior performance for foreign-invested firms *as a firm is motivated to enter foreign markets if it owns a firm-specific advantage that permits it overcome the liabilities of foreignness and the extra costs of operating abroad and therefore to succeed in its foreign venture.*<sup>12</sup>

The foreign owner can exert his influence in a multiple ways. First, foreign investment brings infusions of physical capital second foreign investors bring modern management skills, especially accounting, finance, marketing, and strategy, quality control and customer focus. This would especially be a significant factor in the earlier transformation stages when such know-how accompanying manufacturing would be scarce. Also naturally foreign owners will transfer advanced technology to the local operation. A domestically owned company on the other hand will engage in transfers of international know-how through technology embodied in new capital equipment, and it could obtain

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<sup>12</sup> Nollen (2002)

explicit knowledge by buying licenses from foreign owners of proprietary technology.<sup>13</sup>

Some knowledge and competitive advantage could also be obtained from foreign consultants or from agreements that supplement licensing contracts.

Becoming a part of a larger supplier-buyer chain also enables companies, once they are certified as suppliers of demanding multinationals, to better access foreign markets. This is even more profound in cases where a company becomes, through ownership stakes a unit in a multinational company.

As far as restructuring efforts are concerned, the unburdened foreign owner is likely to be less risk-averse and more initiating of strategic change than local domestic owners.

Foreign-owned firms in transition economies will go beyond the first easy steps of purely defensive restructuring.<sup>14</sup> The following paragraphs bring an overview of empirical evidence.

Angelucci et. al. (2002) look at performance of foreign owned firms in Bulgaria Romania and Poland with an initial assumption that foreign-owned firms should perform better than domestic firms because of their better technology and corporate governance structure. Empirical findings showed that firms with foreign ownership and firms that were majority foreign-owned performed better than private domestic firms in Bulgaria and Poland but not in Romania, and both performed better than state-owned firms.

A study conducted by Barrel and Holland<sup>15</sup> focused on FDI effects on labor productivity in Czech Hungarian and Polish companies. The authors expected and confirmed positive FDI effects on company performance via technology and management technique transfer and also through technical assistance. On the market level, FDI would increase competition that was thought to have a positive

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<sup>13</sup> Nollen (2002)

<sup>14</sup> Nollen (2002)

<sup>15</sup> Barrel, Holland (2000)

effect too. Findings indicate positive effects of FDI where intangible technical assistance is the major transmission channel.

Djankov and Hoekman (2000) examined the growth of total factor productivity of Czech firms that received foreign direct investment via joint ventures or majority acquisitions as opposed to companies that received no FDI.

Technology is transferred via imports of capital goods, purchase of licenses, exporting to knowledgeable buyers, and foreign direct investment. Success of these transfers of both hard and soft technologies depends on absorptive and adaptive capacity of the local firm.<sup>16</sup>

Firms with foreign alliances had more employees and higher initial sales per worker than domestic firms. Firms with FDI also had higher total factor productivity. Foreign-affiliated firms were more likely to provide training and obtain new technologies. Conclusions were that firms with majority foreign equity stakes have faster output growth and foreign joint ventures have positive but not significantly faster output growth than domestic firms. Also there are negative spillover effects on domestic firms, which have slower output growth if their industry has more FDI.

Based on a study of 18 Hungarian firms Czaban and Whitley (2000) conclude that especially foreign-controlled firms changed top management teams and brought in outsiders, and introduced more changes in organizational structures, product lines, and labor relations, all of which should have a positive effect on performance.

Camilla Jensen (2003) has in a study of Polish companies controlled for greater capital intensity of foreign-owned companies while examining their efficiency. When this was done in an industry-by-industry analysis, in half the industries foreign firms were not more efficient than domestic ones. When all industries were pooled, foreign-owned firms were more efficient given capital-labor ratio, firm size, export intensity, and industry dummies. Groups of firms with greater

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<sup>16</sup> The firm's technological capability and investment in learning activities

export intensity were more efficient in only a few cases, but export intensity when interacted with size did contribute to efficiency.

Kočenda and Švejnar (2002) have conducted a comprehensive study using Czech stock exchange data focusing on many aspects of ownership concentration and identity in relation to company performance. As far as foreign owners are concerned they tended to hold majority stakes and only these majority foreign owned firms among all ownership types had higher sales revenue growth. Foreign owners tended to reduce debt/equity ratios, suggesting they either reduced debt more than other owners or infused new capital. When banks were the single largest owners, profit growth was slower. When foreign industrial companies were the single largest owners, positive profit effects appeared to come from sales growth and lower debt/equity ratios, thus indicating deep restructuring.<sup>17</sup>

Konings (2001) looked at the relative performance of firms with domestic and foreign owners among a large group of Bulgarian, Romanian and Polish companies. Konings reports that larger foreign ownership stakes were not related to larger output given other inputs for either Bulgaria or Romania, but they were for Poland. The author suggests this is because Poland was more advanced and that foreign influence takes some time to yield performance gains due to lags in restructuring. There is no evidence of positive spillovers of FDI to other firms, suggesting that the positive effect of technology transfer is overcome by the adverse effects of increased competition by foreign firms.

Sgard (2001) examined total factor productivity differences between domestic and foreign owned companies. The main reported reason to expect FDI to improve productivity in transition firms is that FDI transfers technology to match their well-educated workforces that were disadvantaged by the use of outdated technology. The paper reports that firms with larger FDI stakes have higher levels of output and greater increases in output when industry and input structure are controlled for.

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<sup>17</sup> In Nollen (2002)

Smith et al. (1997) report that value added given labor and capital inputs is greater for firms with more foreign ownership but the effect is an inverted-U.

## 2.3 Competition

Competition too is regarded as one of the factors influencing the companies' restructuring decisions and, as a motivating factor, their performance. In transforming economies, competition should have a positive effect on the attention that companies pay to restructuring. Companies facing stronger competition should have greater incentives to restructure and become more competitive. Such changes include a mix of defensive and deep restructuring such as introduction of more efficient manufacturing processes, investment in new capital, expansion to new markets and investment in new labor skills.

The effect of competition on companies however is neither linear nor independent of other factors. Such additional factors include market power of competitors, the track record of the company in question and last but not least the elasticity of demand that the company is facing.

Firms that do require substantial and often costly restructuring in order to become competitive will be better motivated by the presence of their competitors to undergo such changes. In cases however where these pressures are too strong, firms undergoing transformation may have trouble to generate enough resources to successfully complete the process.

Firms in Russia that operated in more competitive markets performed better, and firms that faced fewer financial constraints performed better (Angelucci et. al. 2002).<sup>18</sup>

Companies with some competitors undertook more restructuring and had better performance than either monopolies or companies facing many competitors,

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<sup>18</sup> In Nollen (2002)



and firms with some degree of market power had better performance than firms with less market power (Carlin et. al. 2001).

The effect of competition on performance as investigated by Carlin et al (2003) on a sample of almost 4000 companies across 25 countries is not monotonic but rather follows a U-shaped relationship. This means that firms facing few rivals are better off than both monopolies and those facing many rivals. In general, innovative oligopolies are thought to be the most efficient. The study also controlled for new entrants on the market as well as the elasticity of demand. Firms with non-elastic demand were better off. New entrants performed worse. Budget constraints are found to have broadly negative impact as they inhibit new product restructuring. Also however they motivate companies to undergo defensive restructuring. Other studies by Carlin et. al.<sup>19</sup> offer similar findings. Again, companies with a small number of competitors performed better than those facing no competition and foreign competitors further deepened this effect. Innovation take-up rate depended on the number of competitors, customer pressure and length of the company presence on the market. New firms were more innovative same as were older ones under pressure from competitors and customers. Freedom of companies to raise prices contributed positively to innovation activities.

Data on Russian companies<sup>20</sup> suggest that competition has positive influence on both deep and defensive restructuring. Effects of domestic and foreign competition are largely the same with the exception of reforms that the companies missed in the past. These are not affected by foreign competition. A significant level of interaction is reported between ownership and competition as high-return monopolies tended to be privatized first.

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<sup>19</sup>Carlin et. al. (2001) and (2004)

<sup>20</sup> Estrin, Angelucci (2003)

## 2.4 Management

Management is of the four major categories of performance determinants the least discussed. This limited body of evidence moreover often focuses not on managers themselves and the way they influence performance of companies but on classical corporate governance issues such as motivation of managers and agency issues.

If we were to summarize the research questions of researchers focusing on managerial traits and actions per se have asked, the list would include three items. (1) What effects does managerial turnover after privatization have? (2) What are the restructuring and business strategies of managers in transition economies with particular focus on external ties? And finally (3) how do local managers acquire skills useful for the market economy?<sup>21</sup>

Further as Nollen (2002) states, in sum, what we know about the role of top management in the transition of firms is partial. We believe that firms in which new managers replaced incumbents performed better, that successful managers addressed the key needs of restructuring, such as marketing and strategy, and that they learned from foreign alliances. We do not know how the successful managers were able to achieve high performance. We don't know their key traits or background factors, and we don't know their methods of managing and organizing the firm. We don't know what managerial actions and decisions worked best. There surely is no single best way, and there may not be a systematic answer to these questions, and this motivates us in our research.

As far as empirical evidence is concerned, there are a number of publications that support the above assumptions.

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<sup>21</sup> Nollen (2002)

Fidrmuc and Fidrmuc (2004) report performance increases after top management replacement. These can only materialize however in case that the new team has appropriate institutional backing within the company to take charge.

Krueger, Gary (2004) also report positive although not-quite significant effects came from replacing the old managing director and western exposure (management training).

Tan and Peng (2003) examine the effects of organizational slack – absorbed and unabsorbed. Absorbed slack is that tied in the firms operations, while the unabsorbed slack is that which is not committed to the firm's undertakings. Results were that while absorbed slack should be avoided, unabsorbed slack could be beneficial. As a transition economy converges to normal, firms holding free cash flow are likely to change their behavior due to governance pressures.

Claessons and Djankov (1999), looking at sample of Czech firms, also examined whether management turnover increased company performance. According to their findings, firms with changes in management after privatization had the largest gains in profitability and productivity

Lussier and Pfeifer (2001) shed some light on key traits, showing that more education among Croatian managers is associated with higher success probability.

Luthans and Riolli (1997) in their company case study conclude that new, market oriented management was the key to the company's success. The idea of replacing the management team has in this case come from a top manager who has received management training in the US.

Peng (2001) brings a typology of strategies that managers used in transition to successfully guide their companies. Prospectors are firms that focus on innovation and change, have a flexible organization, and are headed by young managers; they have little institutional legacy, attract talented people, and gain first-mover advantages. Networkers have interpersonal ties to substitute for

institutions to obtain market information, interpret regulations, and enforce contracts. Boundary-blurrers: public-private ownership and legal-illegal. To deal with environmental turbulence, entrepreneurs can establish alliances with larger legitimate firms including foreign firms and form industry associations. They must develop a strategic vision, build core competencies, focus on human capital, and use new technology.

Peng and Luo (2000) looked at the importance of interpersonal ties between managers and interactions with subjects outside of the company. The non-standard environment of economic transition should reward social capital with better business opportunities. The results prove these claims as managerial ties are shown to be a more important determinant of market share than ROA. Ties with government officials were of special importance. In general, low growth industries, service sector and private owned forms benefited the most from managerial ties.

Wright et.al. 1998 examined competitiveness of privatized Russian enterprises in their transformation to a market economy. As it turned out, successful managers were those clearly focused on performance and growth objectives. Strategic alliances with foreign companies did help structural changes in companies despite resistance due to insider employee ownership and incumbent manager control.

## **2.5 Literature review – Conclusions**

We have in the preceding part brought a fairly extensive review of literature that deals with the four major pillars of company performance – ownership, competition, international linkages and management.

Ownership is the most widely discussed and also perhaps the most diverse category. Results of empirical studies differ to a large extent and often contradict one another. The dividing line between transforming economies seems to lie

between CEE and former Soviet Union. Results based on research among Russian companies often differ from theoretical conclusions and from empirical findings from other transforming countries. There for example, state or insider owned companies often outperformed domestic private or foreign owned companies.

Competition motivates companies to undergo both defensive and deep restructuring, the former often in order to free resources for the latter. There exists a certain optimum level of competition where the positive influence peaks out and beyond which fierce competition drains resource from the company that could otherwise be used to undergo more deep restructuring in order to ensure long term competitiveness.

The effects of international linkages are generally positive and far more uniform. Outside foreign owners initiate deep restructuring, cause management turnover, and bring critical marketing, sales, and customer service know-how. Non-equity alliances and supplier-buyer relationships enable and motivate companies to improve their products and services and machinery and equipment imports also serve as a knowledge and expertise transmission mechanism.

As far as management is concerned, a lot of the research conducted previously focuses on the effects of manager turnover as a recipe for improved performance. Managerial turnover is facilitated by outside and preferably foreign ownership that prevents management entrenchment. Other, although much more limited work looks at the ways in which managers acquire critical knowledge and skills and at traits that in transition economies distinguish successful managers from others. These include absorption capacity, good, preferably western education, interpersonal skills, strategic flexibility and entrepreneurial orientation.

The large number of unknowns regarding the effect of management on company performance motivated this comprehensive research project focused primarily on top management teams and the ways in which management-related indicators can contribute to explaining company performance in transition economies.

## Chapter 3 HYPOTHESES

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In order to contribute to the state of science, we offer the following hypotheses that we will test on the sample of data on Czech companies that we have available from field research:

**Hypothesis 1: Management skills, experience and practices do contribute significantly to company performance in transition economies.**

We believe that, in line with the resource based theory of the firm and in combination with the high degree of uncertainty present in transition economies, company-specific internal characteristics and competitive advantages rather than inherited market position, type of business or other external factors played a key role and contributed significantly to firm success or failure.

**Hypothesis 2: Firm specific factors such as ownership type and structure, international linkages, managerial turnover and others have effect on the presence of critical managerial skills among the top management team.**

We believe that in general favorable characteristics of the management team are more likely to occur in companies that offer better opportunities for managers possessing these skills. Specifically we expect that companies with a foreign ownership share are likely to attract managers who display higher degree of strategic flexibility, entrepreneurial orientation, who already have or are likely to acquire international business experience and who will actively seek contacts with their western counterparts. We expect to be able to distinguish the above-mentioned patterns but the precise determination of causality direction in this case is beyond the scope of this study.

**Hypothesis 3: The characteristics and traits of the top management team as measured by proxy indicators influence the direction and extent of**

**restructuring efforts in the company as well as their effect on company performance.** We expect better educated managers with international business experience who display high degrees of strategic flexibility to engage more in deep than in defensive restructuring and we expect deep restructuring to have a more positive effect on company performance. Theory predicts that defensive restructuring has little or no effect on company performance.

Apart from testing these explicitly stated hypotheses, we will be looking for further relationships between company and management team characteristics and their effect on company performance that can be obtained from an analysis of the dataset at hand.

## Chapter 4 THE DATASET

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### 4.1 Desired characteristics of the dataset

In short, we wished to examine a population of domestic manufacturing firms in the Czech Republic with 100 or more employees that existed during the central planning time before the transition to a market economy.

We wished to study firms that pre-dated the change of economic systems in order to analyze the transition experience of previously state-owned enterprises. New firms that started up since privatization faced qualitatively different conditions and therefore we tried to prevent them from appearing in the sample. The privatization of Czech industrial enterprises and the transition of industry began in 1992, and we limited the population to firms that were already in business as of that year. Firms were classified as having been already in business in 1992 according to the date of their entry into the business register.

We intended to exclude foreign-owned firms and their affiliates from the population in order to study independent decisions and perceptions of local top managers free from influence by foreign owner-managers who would likely have had different views about strategic flexibility and made different adaptation decisions from those of local managers. Firms were classified as domestic firms if foreign ownership was less than 25 percent (less than a blocking minority stake).

Our focus on solely manufacturing firms reduces the amount of unwanted heterogeneity among firms. Very small firms were not suitable for the study because some key explanatory variables (e.g., top management team processes and some organizational transformation activities) are not meaningful for very



small firms. We required firms to have 100 or more employees in any year of the transition period to be included in the population.

The above criteria were supplied to a Czech agency that gathers and sells company financial data and the population was identified and purchased as a pullout from a proprietary database. In addition to size, ownership and industry criteria we additionally required that firms in the population have financial data for 1999 and two subsequent years in order to ensure that we obtained sufficient independent measures of firms' financial performance. (Because Czech regulations require all firms with sales greater than CZK 40 million (USD 1.2 million) or assets greater than CZK 20 million (USD 600,000) to disclose financial data, our population of medium-large size firms is complete.)

The population bounded by the above criteria included 1096 firms, from which we selected a random sample of 600 firms. We sent our questionnaire to these firms by email or postal mail and we followed up with all of the targeted managers by telephone one or more times or we made personal visits to seek their cooperation and to ensure that the correct person answered the questionnaire. We re-sent the questionnaire and repeated our telephone follow up with managers who were different from those to which the questionnaire was originally sent. Filling in the questionnaire on a web page had also been an option. The field work was conducted by graduate students from Charles University in Prague under leadership by the author and supervision from the of the project guarantors<sup>22</sup> during July-November 2002.

As discovered later when the project was underway, not all the companies in the initial sample of 1096 fulfilled the preset criteria fully. To counter this, dummy variables were introduced in order to control for the heterogeneity in the data.

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<sup>22</sup>Professor Klaus Uhlenbruck, Department of Management, Texas A&M University, Professor Stanley Nollen, McDonough School of Business, Georgetown University

The research team for example had to remove foreign firms from the master database manually by inspecting company names one-by-one, and they deleted 179 companies in this way. This has resulted in a population of 917 companies.

Also a significant number of companies that had more than 100 employees early in the transition period had far fewer employees at the end of the period when we measure financial results (as few as 40 employees), but they did enter the sample according to our selection criterion.

The number of completed questionnaires received was 162, which is a response rate of 27 percent. This is a fairly a high figure for survey research in the Czech Republic or other Central or Eastern European or former Soviet Union countries.<sup>23</sup>

There are two known sources of selection bias, none of which should affect the results of the subsequent data analysis. Both are related to major floods that have stricken the Czech Republic exactly as the field research had been underway. The first one is geographical as both telephone and mail service had been disrupted in parts of the country and some of the questionnaires never reached their recipients or answers could not be solicited via telephone. This however is a random property of the dataset and should have no effect on the nature of the responses.

The second possible source of selection bias is also connected to the floods. As the research team aimed to minimize the number of responses that would end up lost or would not reach them for reasons of telephone and fax service disruption, a virtual fax mailbox was set up using the services of a wireless telephone carrier. As this has resulted in an unusual format of a fax number, propensity of respondents to the use of modern telecommunications technologies could also have been one of the factors.

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<sup>23</sup> Interview with Prof. Stanley Nollen, Washington, DC, May 2004

## 4.2 Dataset consolidation

It was the intention to match questionnaire data with the acquired database and to look for discrepancies in the common variables. Particular attention was given to variables either directly or as construct entry variables showing the performance of the companies. Where possible, data from the purchased database was used for these variables. In cases where this data was missing, figures reported in the questionnaires were used and a dummy variable was used to control for possible error.<sup>24</sup> The resulting merged dataset has in its financial section been checked for extreme values and unusual developments (e.g. super high inter-year rates of change etc.) and where possible such cases were crosschecked against an alternative data source.<sup>25</sup> In cases where the alternative data source was in unison with the survey data in the years preceding the extreme value (suggesting thus e.g. a typing error), data was corrected accordingly.

A brief characteristic of the resulting sample of companies (snapshot as of 2001 is reported) is portrayed in the following table.

Number of Observations: 145 <sup>26</sup>				
Year: 2001				
	Mean	St. Dev	Min.	Max
ROA %	6,35	21,30	-92,15	211.06
Assets 1000's CZK	506 556	1 655 430	125	18 571 134
No of Employees	378	691	21	6602

Table 1. – General descriptive statistics of the sample of companies collected in field research

<sup>24</sup> Later, when regression diagnostics were performed, this variable proved to be insignificant by a large margin thereby enabling the two sets of data to be used interchangeably.

<sup>25</sup> [www.ariadna.cz](http://www.ariadna.cz)

<sup>26</sup> This is the number of cases for which all three figures are available for 2001.

As we can see, the sample is not as homogenous as initially hoped for. And there certainly are cases with extreme values for the financial indicators. Influential observations will be discussed later in the analysis part.

## 4.3 Variables

The questionnaire<sup>27</sup> contained several groups of questions that together made up a series of theme sections. The conceptual structure of the questionnaire can be seen in Appendix 5.

In order to decrease the number of variables to a better manageable number and also to better capture the underlying factors, a set of construct variables has been calculated as shown in Appendix 1. Great care and effort has been taken to construct a set of variables not included in the original dataset obtained from the field research that could be used to estimate the level of foreign participation on Czech market and also the effects of foreign demand on company performance. These are indicators of the effects of foreign trade, imports and exports that however later proved insignificant.

We shall now briefly discuss the several groupings of variables that one can distinguish between. The most elementary grouping relates to the relative “precision” of the primary data and reads as follows (in descending order of reliability):<sup>28</sup>

1. Reported figures and facts (examples follow)
  - a. Balance sheet and P/L data, number of employees, age of managers etc.

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<sup>27</sup> See Appendix 2 for the complete set of questions.

<sup>28</sup> This is something that has not been verified statistically but seems to be plausible based on simple reasoning.

- b. Education, business experience
- 2. Subjective evaluation of facts (examples follow)
  - a. E.g. Access to financing
  - b. Willingness of managers to accept responsibility
- 3. Subjective rating (examples follow)
  - a. Managerial and Employee skills compared to competition
  - b. Overall performance rating as compared to competitors

Another set of groups is applicable to variables or constructs, and in particular to those indicators which are related to management or are used to control for other firm-level factors.

The groups include:

- 1. Management skills, traits and experience
- 2. Observable manager's actions.

We used these groupings when looking for the model specification, as it seemed important to have indicators represented from the several groups so that the model would be as complete as possible. As it turned out however, they only presented constraints that instead of helping to reduce the extensive general model, cluttered things even more.

Other variables include mostly performance measures or components thereof or control variables such as company size, age, ownership and others.

## **Chapter 5 DATA ANALYSIS AND VERIFICATION OF HYPOTHESES**

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In order to verify the hypotheses about the significance of managerial effectiveness and actions stated in Chapter 3, we first set out to build a model explaining the performance of companies using the indicators we had available. The following section is devoted to this task and the approach we took.

### **5.1 Selection of functional form**

In line with the hypotheses that take into account the four major groups of factors determining the performance of companies in combination with the underlying assumptions regarding the choice between resource and market based views of the firm it was the aim of the model-building efforts to come up with a functional form in which all four of the groups would be represented. This, we thought, would later facilitate the testing of the hypotheses stated in the previous section.

As far as the choice of functional form is concerned, there was relatively little inspiration in the work done by other authors previously. This was caused by the already-mentioned differences in focus of the research papers studied - questionnaire design has been lead by the intention of the authors to fill in blanks in the picture painted by the currently available research results.

Research done previously gave rough contours of an applicable functional form which included controls for company size, industry, ownership, time in operation and others.

This has lead to a situation where there was a general idea about the causalities between the different factors but the specific functional form was yet to be found.

The approach taken to specify the functional form was "general to specific", where the maximum possible number of explanatory variables is initially included in the model which is then gradually reduced in order to arrive at its final form. The groupings of explanatory variables as described earlier were meant to facilitate the process. The general characteristic of the intended final model was to have a performance measure as the dependent variable and a set of explanatory variables that would cover all the four groups of factors (Ownership, Competition<sup>29</sup>, International linkages and Management) identified earlier.

### **5.1.1**      *The choice of dependent variable*

There was a number of dependent, performance-related, variables to choose from and are summarized in Appendix 1.

The choice of dependent variable was guided by the effort to minimize the level of imprecision involved and to maximize the amount of information contained in the indicator. Thus **three-year average return on assets** was chosen. This indicator of business performance has the following favorable characteristics:

- ⇒ Contains only one variable highly prone to misreporting errors (profit)<sup>30</sup>.
- ⇒ Automatically controls for company size
- ⇒ The three-year average captures all of the information on returns available from the survey and simultaneously smoothes out inter-year fluctuations to give a better picture of the overall trend.

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<sup>29</sup> Subjective measure from the questionnaire could be used in combination with import proxies to substitute for foreign competition.

<sup>30</sup> As opposed to e.g. Returns on Sales where the combination of sales and profits together with the experience with reporting practices of companies in the transformation period hints at greater degree of imprecision.

### 5.1.2 *The choice of functional form*

As far as the initial choice of explanatory variables is concerned, these are shown in Appendix 3, Table 1, as a part of the results of the initial regression. As discussed earlier in the part on preliminary data analysis, a fairly high number of the variables available were to some degree correlated with one another, suggesting the possibility that we were are facing a significant degree of multicollinearity. This expectation was proven true by the results of the initial regression analysis. Contrary to our expectations however, none of the explanatory variable was powerful enough to prevail and draw a significant part of the overall effect to itself. As it turned out and is clear from the contents of the table the result was unacceptable. Clearly the degree of multicollinearity was high enough to completely clutter any regression results.

Clearly<sup>31</sup> the model needed to be reduced and thus a series of cross or auxiliary regressions<sup>32</sup> was run (the condensed results of which are reported in Appendix 4), in order to obtain better information about the relationships between explanatory variables than simple partial correlations could offer.

The next attempt was made to reduce the model by retaining control variables and selecting those explanatory variables that would best allow the explanation of the four groups of factors determining company performance. This approach also brought no significant improvement.

Next a simple rule was used to identify those variables that were to be removed from the model. Those were selected for removal that had the highest number of significant explanatory components and where the coefficient of determination in the auxiliary regression was over 0,25. Also care was taken to ensure that at least one variable in every of the six groups identified in Appendix 4<sup>33</sup>, would be

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<sup>31</sup> As also indicated by the large difference between  $R^2$  and Adjusted  $R^2$

<sup>32</sup> For details see Kmenta (1990), p. 438

<sup>33</sup> These included three sorts of managerial actions, firm resources, managerial traits and a selection of firm specific indicators.



preserved so that all the desired effects could be captured. Yet again, the results were nowhere near satisfactory.

It became clear that the desired information is buried so deep in the data and is moreover obscured by a high degree of multicollinearity that neither economic-theory-based model reductions nor simple rules of thumb are powerful enough to allow for a choice of a functional form that would carry acceptable amount of information. We thus decided to perform ridge regression estimation as described in Kmenta (1990) and SPSS 12.0 statistical package help system. The objective was to arrive at a limited set of explanatory variables that would form a good platform for reaching a functional form that would allow for testing the hypotheses as stated earlier in the paper. Being aware that ridge regression estimates are biased (Kmenta, 1990, pp. 440-441), the results of ridge regression estimation would only serve as a guide for the selection of explanatory variables to be included in a standard ordinary least squares estimation<sup>34</sup>.

The ridge regression has pointed at three variables that carry the explanatory power in our dataset which were subsequently used in an ordinary least squares estimation. The results of the latter are shown in Table 2 on the following page.

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<sup>34</sup> For ordinary least squares estimation techniques, see Greene (1993) pp. 170 - 203.

<b>Dependent variable: ROA9901</b> Number of observations: 112 Mean of dep. var. = 2.71 Std. dev. of dep. var. = 6.95 Sum of squared residuals = 2894.24		Variance of residuals = 26.55 Std. error of regression = 5.15 R-squared = .461 Adjusted R-squared = .451 F (zero slopes) = 46.571
Variable	Estimated Coefficient	Standard Error
<b>Finres</b> (access to finance and overall financial situation)	2.063**	.233
<b>divestp2</b> (divestments of people and plants)	-2.407**	.313
<b>Scwest</b> (Social capital with the west)	-.562*	.280

Table 2. – Initial functional form as estimated by ordinary least squares

\* denotes results significant at 5% confidence level

\*\* denotes results significant at 1% confidence level

Additional explanatory variables were added one by one to this base model to test for their possible significance.<sup>35</sup> The testing efforts have resulted in several variables added. The following tables summarize the results. There are two different, statistically mutually exclusive,<sup>36</sup> combinations of explanatory variables given the criterion of 10% minimum confidence level imposed upon them.

<sup>35</sup> Please note that regressions were tested for heteroskedasticity using the White test and LM heteroskedasticity test. In those cases where both or one of the tests indicated possible presence of heteroskedasticity, heteroskedastic-consistent estimations of standard errors of the regressors were used.

<sup>36</sup> This is happens as distortions caused by the high degree of complex multicollinear relationships between the explanatory variables prevent some of the explanatory variables to be simultaneously included in the model.

<b>Dependent variable: ROA9901</b> Number of observations: 87 Mean of dep. var. = 3.028 Std. dev. of dep. var. = 7.024 Sum of squared residuals = 1770.071		Variance of residuals = 21.853 Std. error of regression = 4.675 R-squared = .582854639 Adjusted R-squared = .557 F (zero slopes) = 22.633
Variable	Estimated Coefficient	Standard Error
<b>Finres</b> (access to finance and overall financial situation)	2.553**	.297
<b>divestp2</b> (divestments of people and plants)	-1.829**	.272
<b>Scwest</b> (Social capital with the west)	-.810**	-.810
<b>Odfirm</b> (ownership share in the company by a domestic firm)	-.045**	.012
<b>Forgnal</b> (non-equity strategic alliances with foreign companies) <sup>37</sup>	.0785**	.0180
<b>Diversix</b> (level of diversification of the firm's business) <sup>38</sup>	-.770*	.376

Table 3. – Final functional form No.1 as estimated by ordinary least squares

\* denotes results significant at 5% confidence level

\*\* denotes results significant at 1% confidence level

It is clear that the second model as shown below in Table 4, and its results, despite carrying slightly less total explanatory power as measured by the

<sup>37</sup> A strategic alliance was defined as “a long term technology, production, or marketing agreement with close cooperation but no equity stake; ordinary distribution arrangements or arm’s-length licensing agreements are not strategic alliances unless they include other cooperation.”

<sup>38</sup> See the questionnaire Part V., question 7 – each company was given a score of 1 for focusing on core business, score of 2 for being vertically integrated, score of 3 for being diversified into related businesses and score of 4 for being a conglomerate diversified into unrelated businesses.

adjusted coefficient of determination, are much more interesting given the focus of this paper – something that will be discussed later.

<b>Dependent variable: ROA9901</b> Number of observations: 93 Mean of dep. var. = 2.939 Std. dev. of dep. var. = 6.839 Sum of squared residuals = 1934.321		Variance of residuals = 22.234 Std. error of regression = 4.715 R-squared = .550 Adjusted R-squared = .525 F (zero slopes) = 21.303
Variable	Estimated Coefficient	Standard Error
<b>Finres</b> (access to finance and overall financial situation)	2.343**	.280
<b>divestp2</b> (divestments of people and plants)	-1.881**	.275
<b>Scwest</b> (Social capital with the west)	-.679*	.293
<b>Odfirm</b> (ownership share by a domestic firm)	-.045**	.012
<b>Forgnal</b> (non-equity strategic alliances with foreign companies) <sup>39</sup>	.082 <sup>x</sup>	.044
<b>Concdom</b> (dummy for more than 50% ownerships share by a domestic investor)	-.549**	.914
<b>Diversix</b> (level of diversification of the firm' s business) <sup>40</sup>	-.616 <sup>x</sup>	.374

Table 4. – Final functional form No. 2 as estimated by ordinary least squares

<sup>x</sup> denotes results significant at 10% confidence level

\* denotes results significant at 5% confidence level

\*\* denotes results significant at 1% confidence level

<sup>39</sup> A strategic alliance was defined as “a long term technology, production, or marketing agreement with close cooperation but no equity stake; ordinary distribution arrangements or arm’s-length licensing agreements are not strategic alliances unless they include other cooperation.”

<sup>40</sup> See the questionnaire Part V, question 7 (Appendix 6), the company was given a score of 1 for focusing on core business, score of 2 for being vertically integrated, score of 3 for being diversified into related businesses and score of 4 for being a conglomerate diversified into unrelated businesses.

Additions of further variables beyond those shown above resulted not only in the added variable being insignificant but also mostly in one of the variables already included turning insignificant. This was a clear proof that the degree of multicollinearity was as high as previously ascertained and that the ridge estimator auxiliary regression was the right way towards a usable model.

The same procedure was then tested for squared values of the entire set of explanatory variables in a search for possible nonlinear relationships.<sup>41</sup> This also has brought almost no results. Only in the case of the “ownership stake in company a by domestic firm” – variable called ODFIRM. In this case its second power when included in the model was more significant than the first (both with a negative sign) Yet again however, they could not be used simultaneously and this robbed us off the information about a nonlinear effect of ownership concentration on performance that would support some of the previous empirical findings.

As the complete model included far fewer management-related explanatory variables, we sought to test whether indeed other managerial skills or actions contributed to company performance. We believed that the sole investigation of the partial correlations between explanatory variables, which also are in line with our hypotheses as will be discussed later, was not sufficient. We thus created an additional variable called MANAG which was a factor of all the variables that were used to construct SCWEST (social capital with the west), TRNEVAL (human resource restructuring - deep) and IBEXP (International business experience of the management team). In this way, we obtained a variable that on its own would be hard to interpret but that perfectly suited our needs. We had a single factor that captured the effects of three different groups of management - related indicators. While SCWEST could be thought of as a proactive stance of managers that aides expertise transfer, TRNEVAL is a way to measure results of managerial decisions to undergo deep restructuring of human resources in the company (something about which theory suggests that it is positively associated

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<sup>41</sup> This we did as we, based on study of previous research efforts, expected nonlinear relationships especially in the case of ownership concentration.

with company performance) and finally IBEXP which can be thought as a part of the managers' skill portfolio.

Next we substituted MANAG in place of SCWEST in the original model and rerun the regression.

The result is shown in the table below:

<b>Dependent variable: ROA9901</b> Number of observations: 85 Mean of dep. var. = 2.797 Std. dev. of dep. var. = 6.235 Sum of squared residuals = 1664.492 Variance of residuals = 21.070		Variance of residuals = 21.070 Std. error of regression = 4.590 R-squared = .491 Adjusted R-squared = .458 LM het. test = .692 White het. test = 23.285 F (zero slopes) = 15.197
Variable	Estimated Coefficient	Standard Error
<b>Finres</b> (access to finance and overall financial situation)	1.813**	.223
<b>divestp2</b> (divestments of people and plants)	-1.779**	.323
<b>MANAG</b> (composite management variable)	-.855 <sup>x</sup>	.503
<b>Forgnal</b> (non-equity strategic alliances with foreign companies)	.0923 <sup>x</sup>	.047
<b>Concdom</b> (dummy for more than 50% ownerships share by a domestic owner)	-3.222**	.951
<b>Diversix</b> (level of diversification of the firm' s business)	-.848 <sup>x</sup>	.393

Clearly, the variables included in the composite factor do contribute to company performance. The effects of the composite factor were significant despite two of the included components could not enter the model on their own. The sign of the regressor however is something that clearly requires further investigation.

## Chapter 6 THE EMPIRICAL RESULTS

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In this part we will take results of the data analysis described above and try to draw conclusions. Let us take the results of regression analysis one by one first and then draw more conclusions based on examination of the correlation matrix presented in Appendix 3.

### 6.1 Regression analysis results

Let us now examine the final results of the regression analysis. We have used the model that resulted from a long series of trial and errors preceded by its basic estimation using a ridge regression.

Let us now examine the results of the regression analysis:

The state of company finance and access to financing have strong positive effect on company performance as well as displaying a very high degree of significance. This result, although it adds to the explanatory power of the model, has questionable information value. This is because the direction of the causality cannot be determined from an econometric analysis and theory implies a reverse causality. We would expect that access to financing would be determined by good performance rather than the other way around.

According to theoretical predictions based on research by other authors, divestments should not have a direct effect on company performance. If however we take this regressor as a proxy that is indicative of defensive restructuring. In this light, in time of financial distress, the negative relationship between the divestments and performance is better understandable. We however once again cannot determine the underlying reality and the direction of this causality. Is it that firms in distress (and therefore poor performers) divest

people and plants or is it that companies that relied on defensive restructuring have not performed well? We can say therefore that at least the direction of causality if not also the significance of this regressor need further investigation.

The negative effect of ownership and highly concentrated ownership by a domestic firm and are in line with theoretical predictions as well as the positive effect of foreign alliances.

The significance of and negative effect of diversification level into unrelated businesses is a welcome result. This corresponds with results of a case study published by the author<sup>42</sup> and anecdotal research done by the author where focus on core business was the key to company prosperity in a transforming economy.

## **6.2 Correlation analysis:**

As the high degree of multicollinearity in the model causes its higher-than-desired simplicity, the less elegant and precise evaluation of correlation matrix had to suffice in fulfilling our goal to analyze relationships related to managerial skills and traits. Despite its simplicity, it still offers some interesting results.

### **6.2.1 *Effects on performance***

Primary secondary or tertiary sector affiliations all have a slight negative effect, with services being the worst off.

Ownership by management and foreign companies is positively associated with performance while ownership by employees and state has slight negative effect.

Firm size has a weak negative effect. Just as in the regression equation, access to finance and general financial situation of are strongly positively associated with performance.

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<sup>42</sup> Nollen, Hofman, Špicar (2005)



Higher capital to labor ratio has positive effect on performance and so does age diversity among top managers.

In companies where managers perceive themselves to be strategically flexible, superior to their counterparts and have international business experience, performance is lower. Higher number of managers who were in the company before velvet revolution is negatively associated with performance.

Defensive restructuring has strong negative association with performance. Deep restructuring has slight positive to very weak negative association with performance.

### **6.2.2**     *Effects on restructuring*

Primary secondary or tertiary sector affiliations all have interesting effect on restructuring. Primary sector is, as one would expect, highly negatively associated with both forms of deep restructuring. There is slight negative relationship in the case of retreats from product and geographical markets. The only positive relationship is with divestment of people and plants – capacities are being sold off and people laid off.

Secondary and tertiary sectors have clear propensity towards deep restructuring and engage in almost no defensive restructuring. Relative reluctance of secondary sector to divest people and plants is the only exception.

Manager ownership is weakly negatively associated with human capital restructuring and positively with plant and product diversification. Manager-owners are weakly averse to retreats from product and geographical markets. Much stronger and in line with theoretical predictions are managers opposed to divestment of people and plants.

Also as expected, financial institutions are relatively passive owners on the operational level and engage only slightly in product and market diversifications.

When put in the role of owners, domestic firms do not do much of restructuring in general with slight aversion towards product and market diversification and clear preference for divesting people and plants.

Foreign companies are slightly averse to defensive restructuring and engage in deep restructuring with preference of investments into human capital restructuring.

Government on the other hand divests heavily and retreats from markets with no propensity to invest in people or new products.

We shall next look at the relationship between managerial skills and traits and their propensity to the individual types of restructuring efforts.

Managers, who perceive themselves as superior to their counterparts in critical skills, have international business experience, actively maintain contacts with their western counterparts and strategic flexibility is not unknown to them, will much more and strongly engage in all forms of deep restructuring than in defensive restructuring. Those with strong relations with the west tend to leave more product and geographical markets.

Company size is positively correlated with all restructuring activities the strongest positive link in the area of human resource restructuring, by far the weakest link in investments in new products and markets and both forms of defensive restructuring moderately and equally associated with company size.

Higher capital-to-labor ratio is positively associated with investments in human resources and divestment of people and plant. One could call this comprehensive human resource restructuring. Capital-to-labor ratio is almost dissociated from new products and exports and negatively correlated with retreats from product and geographical markets. This could be interpreted in such a way that this ratio is a source of competitive advantage and therefore lays no ground for retreats.

The most interesting effect of age diversity on the managerial team include high propensity to introduce new products and high reluctance to divest people and plants.

Last but not least, "rich"<sup>43</sup> companies engage in deep restructuring and do not engage in defensive restructuring.

### **6.2.3      *Effects on concentration of managerial skills within the company***

Primary sector seems to be highly unattractive to managers possessing all four of the key traits and skills<sup>44</sup>. Tertiary sector is naturally the most demanding of these skills.

As far as ownership is concerned, foreign firms naturally prefer and attract people with international business experience. The direction of this causality however is cannot be precisely determined. Other interesting results include high negative correlation between employee ownership and all four types of managerial skills. State ownership is negatively correlated with strategic flexibility of managers. The strongest observable relationship between financial situation of a company and managerial skills is in the group of managers who perceive themselves as superior in terms of critical managerial skills.<sup>45</sup>

Having had a look at the state of prior research and having performed some empirical analysis of survey data, let us now provide a case study example of the importance of managerial efficiency. This will shed even more light on the issue we have been discussing here.

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<sup>43</sup> In terms of financial situation and access to financing

<sup>44</sup> Social capital with the west, strategic flexibility, international business experience and critical managerial skills.

<sup>45</sup> See the MSKILL construct in Appendix 1

## **Chapter 7 CASE STUDY ON THE EFFECTS OF MANAGEMENT EFFICIENCY ON COMPANY PERFORMANCE - LG. PHILIPS DISPLAYS**

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In this part we present a case study of a recent foreign direct investment in the Czech Republic – a result of a joint venture between a developed Western electronics manufacturer and its Korean partner that has started in the Czech Republic at the same time to which the previously discussed survey data refer. This we have chosen as an example of a current company that has been exposed to conditions similar to those that Czech companies have faced during the transformation period and where local effects of global managerial shortcomings have lead to some interesting results. Also of interest is the attempt by the crisis management team to reverse these effects, which is taking place at the time this paper is being written.

The case study is based on personal experience of the author who serves on the crisis management team currently operating in the company and on information from interviews conducted by the author with two top managers in the company.

### **7.1 The prospect of a good business**

With its presence on the global market with computer and television displays, LG. Philips Displays is the joint venture between the Cathode Ray Tube (CRT) businesses of LG Electronics of Korea and Royal Philips Electronics of the Netherlands. In 2005, the company's share of the total market for both Color Picture Tubes (CPTs) and Color Display Tubes (CDTs) stood at 29 percent.

LG.Philips Displays is the world's market leader in color picture tubes for use in televisions and computer monitors. The company, with its operational

headquarters in Hong Kong, employs about 15,000 people and manages worldwide factories. The company was founded as a joint venture by two parent companies with different backgrounds.

One, LG Electronics is a major global player in electronics and telecommunications, operating 76 subsidiaries around the world with over 64,000 employees worldwide. LGE focuses on Digital TV, CD-RW, DVD, CD-ROM, DVD-ROM Drives, PCs, Monitors, Mobile Handsets, CRTs and PDPs. LGE is strengthening core competencies even more to further its reputation in electronic products and equipment in the digital era. LGE is headquartered in Seoul, Korea, and was founded in 1958.<sup>46</sup>

The other, Royal Philips Electronics of the Netherlands is one of the world's biggest electronics companies and Europe's largest, with sales of EUR 30 billion in 2004. With activities in the three interlocking domains of healthcare, lifestyle and technology and 161,586 employees in more than 60 countries, it has significant market positions in medical diagnostic imaging and patient monitoring, color television sets, electric shavers, lighting and silicon system solutions.<sup>47</sup>

Three geographically determined units in a way shown on the diagram below constitute the entire joint venture.

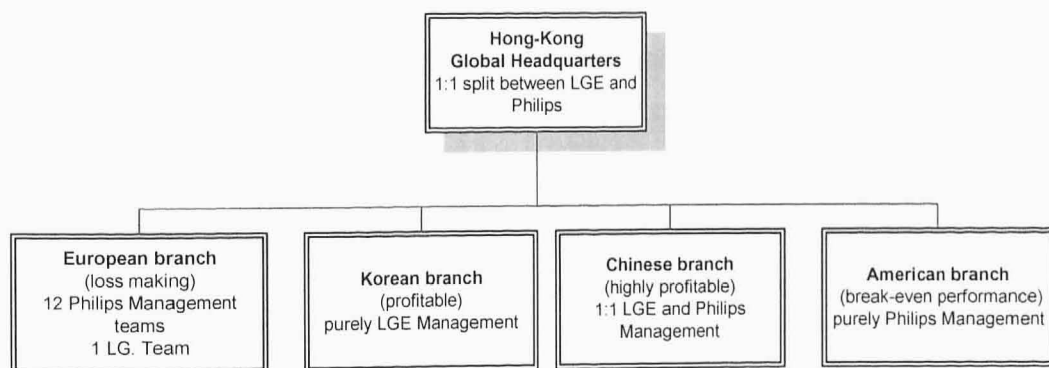


Diagram 1. – Organization structure, relative performance and management power split on LGP global level<sup>48</sup>

<sup>46</sup> [www.lgphilips-displays.com](http://www.lgphilips-displays.com)

<sup>47</sup> dtto.

<sup>48</sup> Source: Philip Styles, CEO, LG. Philips Displays Czech

The governing idea behind the formation of the joint venture was simple and made business sense.

Philips as a traditional and strong Western Europe consumer electronics manufacturer would bring to the table advanced marketing and sales techniques as well as excellent customer relations in Europe and North America. This together with Philips brand name was a position that LG Electronics (referred to LGE hereafter) could not possibly attain if acting on its own.

LGE on the other hand, as a typical product of an "Asian tiger" economy would bring aggressive innovation, cost cutting and production efficiency efforts that would add to the global competitiveness of the group.

The founding mission of the organization was to "Remain the world market leader in CDT and CPT display markets and to lead the CRT industry consolidation." The principal strategy that would enable this ambitious mission to be fulfilled was to "Be faster (best in time-to-market), Get better (through manufacturing excellence to achieve cost leadership) and Come closer (by leveraging the strong global presence)."<sup>49</sup>

Core values of the company included Operational speed, Innovation of products as well as manufacturing and business processes and Partnership between colleagues, cultures and companies.

The above business model as defined by the top leadership of the LGE and Philips constitutes a perfect match for fulfilling the ambitious goals of the joint venture.

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<sup>49</sup> Source: Official LGP management handbook

## 7.2 Market developments and LPD response

The market with displays based on the cathode ray vacuum tube (CRT) is a mature market. For more than 60 years, products have been supplied to the market with relatively little changes to the underlying technology. The industry has for decades in the 70's 80's and experienced times of high profit and steady growth.<sup>50</sup>

This long period without significant market challenges could also have influenced expert forecasts. None of the analyses was even close to estimation of the speed at which the LCD technology would be able to gain market share. First estimates after the beginning of LCD mass production showed that the CRT technology still had a market future of 10-15 years. Instead, LCD sales started to grow exponentially within 2-3 years.<sup>51</sup> Initially, with the relatively low picture quality, the only advantage of having an LCD TV was that it was slim. True to their image of innovators, the LPD consortium responded with their slim and later with ultra slim models. These steps however came too late.

A strategic plan was drafted for LPD in Europe in 2002 as a response to market threats, which included ambitious restructuring goals as a response to increasing cost structure of European factories and rapid advent of the LCD technology.

This plan included divestments on a large scale of capacities in the UK, Netherlands and France, relocation of manufacturing capacities to lower wage countries<sup>52</sup>, increased focus on outsourcing and significant headcount reductions in prevailing facilities.

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<sup>50</sup> Philip Styles, CEO, LG. Philips Displays Czech

<sup>51</sup> These estimates also influenced the decisions to build technology parks such as the one in Hranice, Czech Republic as late as in 2000. It was believed that there was enough time for the 15-year investments to be profitable.

<sup>52</sup> This also included major relocations to the Czech Republic, which was to become a manufacturing centre for Europe. The idea to build a factory in the Czech Republic, which offered interesting investment incentives was born in Philips as early as 1995. Typically of Philips slow approval processes, the first

Choices made earlier at the beginning of the joint venture however, have prevented this plan from being implemented. A closer look at the organizational chart shown in Diagram 1 shows that the European branch, despite it operated in a territory with the least flexible cost structure and needed the most aggressive leadership (that could possibly have been provided by the Koreans) to carry out its restructuring, was headed by (inevitably entrenched) Philips management who opposed the restructuring ideas.

The ever present drive by Philips Europe, which outnumbered Koreans within the management team always pressed hard to keep as many factories running as long as possible. This has prevented even a start of a proper implementation of the restructuring plan.

Also due to promotion from within and the failure or unwillingness to understand the big picture, regional leaders would look after their old factories at the expense of others. This also was the case with the European regional chief executive who had formerly headed a factory in France.

On the production level, all plants were driving the traditional cost-reduction exercises but the cost structure in Europe proved too high to be dealt with.

### **7.3 Management specifics and their effects**

The primary reason behind the failure of LPD was a clash of management cultures. This was not necessarily the clash between Korean and Dutch management styles but a clash between LGE and Royal Philips.

While LGE as the Asian tiger among the two, who was supposed to act as the production innovator with faster decision-making, regarded their Philips partner as a slow, big company without a drive, Philips on the other hand looked down at LGE as the manufacturer of lower form of electronics that lacked sophistication.

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steps were made as late as 1999. This, given the lifespan of production lines of 15-20 years was too late.



The lack of respect between the two companies resulted in parallel organizational structures. There were two companies in one. There was the Korean G. Philips Displays and the Dutch LG. Philips Displays. In a disregard of the official organizational structure, managers would report to superiors who came from the same original company as themselves.

To get an understanding of the organizational structure of Korean companies<sup>53</sup>, one must examine its two components: the formal and the informal structures. The formal structure is characterized by the presence of a tall highly centralized and formalized hierarchy. The number of levels in it is considerably greater than in similar structures seen in other countries, such as Japan or the United States.

The informal structures of Korean companies play just as important a role. One of the main features of even the larger Korean corporations is the lack of separation of ownership and management. Owners are typically involved in all major decisions affecting the company. Most top-level positions are then filled with individuals related to the owner/principal. Thus power and influence within companies is derived from the strength of the relationship to the owner: close blood relationship or other factors such as geographical or educational ties.

One result of the hierarchical structure of Korean companies is an emphasis on vertical communication between subordinates and their superiors rather on horizontal communication between departments. Even so, there are frequent misunderstandings between employees on different levels, as managers usually give directions in general terms expecting subordinates to decipher them. Formal communication is significantly constrained by the desire to maintain harmony, as colleagues prefer not to criticize or to disagree with each other.<sup>54</sup> However, close relationship between employees significantly facilitates communication at all levels.

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<sup>53</sup> <http://www.belakhov.com/projects/koreanmanagement.html>

<sup>54</sup> Czech managers have reported this characteristic as extremely dangerous in a situation where market threats and adverse financial situation called for immediate remediation. This however was often prevented by the unwillingness to report the negative information.

Due to these specifics of the Korean management, it was paradoxically more efficient for managers to use the parallel Korean networks present within the company structure. These highly efficient communications channels allowed for better results than the official reporting and organizational structures.

As a single unit however, the joint venture lacked operational efficiency from the very beginning, decision-making was slow and complicated and crucial information often failed to reach the appropriate recipients. This was especially true in cases where communication between Ex-Philips with Ex-LG management was required.

As for the financial ineffectiveness of the organization, it may be argued that the blurred reporting reality together with the Korean unwillingness to report negative results allowed for the highly profitable branch in China to cross-finance the remainder of the group. This together with a complicated and deep organizational have affected the overall profitability picture as seen by the top management.

Also as Hranice factory CEO has pointed out "the top management in the dichotomous company were too busy fighting each other rather than looking at the bottom line."

## **7.4 Insolvency and Restructuring**

The inability of the European leadership to carry out fundamental changes has resulted in the inevitable. After the CRT market has taken a deep plunge in 2005 accompanied by a 50% reduction in sales prices, the European branch of LG. Philips Displays could after its failure to implement the 2002 restructuring strategy no longer bear the market pressure and has in Januray 2006 filed insolvency protection.

Let us now examine the effects of global management followed by a regional crisis on a local business unit – the LGP plant in Hranice, Czech Republic.

Until January 2006 the Hranice factory was a purely manufacturing unit. Despite all the difficulties in decision making, the Philips technical expertise together with Korean drive for production innovations have resulted in very high production efficiency. The fact that wage levels in the Czech Republic are still far lower than in Western Europe only added to this competitive advantage.

What the Hranice company lacked however (just as many of her European sister companies), was the ability to turn advantages into financial results. The total focus on the production side of the business and the high level of attention paid to the ability to serve the customer at whatever costs has led to huge financial inefficiencies.

Cash pooling that was done centrally prevented local management to have a clear picture of the financial side of the business; centralized sales activities gave no feedback in the form of reported sales prices. Inventory levels were kept inefficiently high in line with the company policy that prescribed the ability to always have enough stock to make any sale possible.<sup>55</sup>

The parent company of LPD Hranice has before its bankruptcy been taking care of most of business-related activities of the Czech branch. These included a complete portfolio of marketing, customer relations and sales of the finished product. Also cash flow management and inventory levels have been taken care of by the parent company. All cash and receivables of the Czech branch were deposited on central accounts in Netherlands.

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<sup>55</sup> This is a phenomenon commonly called the „just-in-case“ management as opposed to „just-in-time“. Even the global CEO in Hong-Kong is a former manufacturing person – there was not enough stress put on the financial bottom line even on the highest levels of the organization. The CEO is known among his peers to have built finished product stock of 1,2 million units in the factory where he was director. Such an amount was equal to 6 months of production with huge impact on working capital needs.

On the day the parent company filed for insolvency protection, a bankruptcy trustee took over the entire European branch. One by one the individual business units of LG. Philips Displays have followed their parent company and went bankrupt too.

Not so however for the Czech factory. The British CEO has secured an approval from the Dutch trustee<sup>56</sup> to retain operational control of the company and started to act. His actions that followed effectively reversed the detrimental effects of management shortcomings on regional level.

LG. Philips Displays Czech (referred to LGPCZ hereafter) was left in an extremely difficult situation. All her cash and receivables were gone with the parent company in bankruptcy, there was no cash to cover the substantial Accounts Payable for components and services that were becoming due, and there was nobody to sell to and no financial means to buy components and services.

What saved LGPDCZ was an inherited inefficiency – the high volume of finished goods inventory.

Within four days, the company opened new bank accounts, approached the customers, negotiated sales prices, started to sell out its stock of finished goods and generated positive cash flow to sustain a continued production.

Within two weeks, financial consultants were brought on board to help manage cash flow and negotiate the first repayment schedules with the creditors.

All expatriate Philips and LG. managers have left the company thereby allowing for consolidation of management power in the hands of a more homogenous group – Czech management team headed by a British CEO. As CEO Mr. Styles recalls: *“Despite the extremely serious situation, we were able to decide and act. All of a sudden we were entirely in charge and could start to initiate and complete*

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<sup>56</sup> The Dutch trustee has upon gaining control of the parent company effectively became the one and only shareholder of LG. Philips Displays Czech.

*steps on the operational level that would take us 6 – 8 weeks to carry out which would within the old organizational framework have taken 6 – 9 months.”*

The company has gone through a series of restructuring steps that include drastic cost cutting and optimization on the operational level and investments in new technology that allow for the effective use of unique material resources that can be acquired around Europe from the bankrupt competitors as well as former sister companies. The company has even gone through capital expenditures to modify its product portfolio to better serve the market demand. The company has never stopped fulfilling obligations to her employees including training beyond the legally required levels.

On the production side, the company has entered joint projects with new component suppliers to remain cost competitive and came up with unparalleled technological solutions to support cost competitiveness. These changes in production processes are done during full production schedule and take an order of magnitude less time to complete than ever thought possible in the “old industry”.

LG. Philips Displays Czech has in June 2006 filed for composition as an effective solution to the debt inherited after the bankruptcy of the parent company and has at the court filed a two-year restructuring plan. The composition was approved by the court and unanimously approved in a vote of the creditors.

This restructuring project is the first ever composition of a private company of this size in the country to earn such support by the creditors and court. The restructuring should finish in November 2007 and depends now only on the ability of the management to maintain cost competitiveness of the company. The company simultaneously searches for a strategic investor.

The CRT market and production in Europe has an outlook for approximately two years. Six out of nine CRT tube manufactures have gone bankrupt; LGPDCZ is the only one of the former LG. Philips division Europe that still survives.

## Chapter 8 CONCLUSIONS

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This paper aims at filling in the blanks that previous research has left in answering the questions on the effect of management skills performance. To achieve that, it rests in its first part on the results of a survey and in the second part it makes use of a case study that can shed more light on the issue

We believe that if the empirical results presented in Chapter 6 are contrasted against the below super concise set of theoretical conclusions about performance of companies in transforming economies as summarized by Nollen (2002), we can declare all of the three hypotheses as verified.

The unknowns that this research has left unanswered lie in the econometric model (Part 6.3) and include the unexpected direction of the effect of manager-skill-related indicators on company performance and the indistinguishable direction of the relationship between perceived financial situation of the firm and its performance.

*"Firms that undertook more deep restructuring have better performance than firms that undertook less deep restructuring. Defensive restructuring does not contribute to the firm's performance.*

*Firms that perform better have top managers who have stronger critical skills, greater absorptive capacity, stronger entrepreneurial orientation, and greater social capital with government and industry. Better performing firms have younger managers and fewer legacy managers.*

*Firms with more resources have better performance than firms with fewer resources, but resources are less important than management skills and practices.*

*Firms that had more strategic alliances with foreign firms and more marketing alliances in total have better performance. Firms that had greater social capital with the West and whose top managers had more international business experience will have better performance.*

*Firms with more foreign ownership perform better than firms with less or no foreign ownership. Firms with financial institution ownership perform worse than firms with no such ownership. The effect of insider-management ownership on performance is mixed. The effect of concentration of ownership on performance is complex, perhaps curvilinear and variable with identity of owner, and requires analytical experimentation”<sup>57</sup>*

The case study presented in Chapter 7 brings a practical example of a situation where management style per se has played a crucial role in the inability of a company to properly react to market developments on global and subsequently also local level.

Despite being a foreign company, once could argue that LG. Philips Displays Czech has been exposed to changes in its business environment that in many respects resembles the situation of Czech companies in the course of the nineties.

LGPDCZ has unexpectedly found itself on a rapidly diminishing market, which no longer showed sufficient demand for its product. At the same time, component prices are increasing, as component manufactures are unable to trade big enough volumes due to the collapse of their customer base.

This is very similar to the situation that pre-1989 companies faced after the demise of the COMECON markets and which suddenly looked at a rapidly rising cost base due to price liberalization. These companies also had hard time competing as the market price for their product was too low to allow for covering

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<sup>57</sup> Interview with Professor Stanley Nollen

even their fixed costs, let alone allowing for capital expenditures that would improve their competitiveness.

What is even more interesting about the LGPDCZ case is that as the market diminishes very quickly, the time frame that management has got for deep restructuring through strategic investments in technology and training is equal to the time frame for short term cost cutting. Only a combination of the two restructuring approaches can secure enough time for the company to find a strategic partner.

What happens effectively is that the management team after its consolidation is forced to act extremely quickly and decide simultaneously on both cost cutting as well as strategic restructuring projects.

It is the current top level strategic flexibility and operational efficiency and creativity of the management team that has prevented the company from going bankrupt.

In the past it has been the clash of management and company cultures that has prevented an excellent business plan from succeeding and later also prevented timely reaction to the new threats.

It is clear from both the empirical research as well as anecdotal, that efficiency of management teams is an important determinant of company performance and strategic flexibility.

Avenues for further research of course appear before us as surveys as the one presented in this paper will always miss important, company specific facts that will significantly affect the results. Also anecdotal research if accompanied by deeper financial analysis would bring even higher value.

One avenue in which further research could be directed is such that the direction of causalities that simple research design cannot untangle would be examined. There we believe lies a lot of room for improvement of understanding the complex relationships between managerial teams and company performance.





# Appendix 1 CONSTRUCT VARIABLES AND SELECTED IMPORTANT PRIMARY VARIABLES

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## Dependent variable: Performance

### 1. Profitability

1.1.a. Average 3-year 2001-1999 return on sales:	PROS0199
1.1.b. Average 3-year 2001-1999 return on assets: -calculated from primary (quex) data	PROA0199
1.2.a. Single-year return on sales:	PROS_01
1.2.b. Single-year return on assets: -calculated from primary (quex) data	PROA_01
1.3.a. Return on sales compared to competitors:	ROS
1.3.b. Return on assets compared to competitors: -manager's rating from quex	ROA

### 2. Overall performance

2.1. Overall performance and success compared to competitors: -manager's rating from single question	PERF
2.2. Growth/Performance/Competitiveness compared to competitors: -scale ( $\alpha=0.79$ ) comprising manager's rating on three questions (sales growth, overall performance, competitive advantage).	PERF_AL2 <sup>58</sup>

### 3. Growth

3.1. Average two-year 2001-1999 revenue growth:	REVGRO
3.2. Average two-year 2001-1999 profit growth:	PRFGRO

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<sup>58</sup> Values for scale variables are simple averages of the questions that comprise the scales, or when indicated they are factor scores computed from standardized values multiplied by factor loadings for all questions in the factor analysis (the latter procedure yields about the same values as simple averages if factor loadings for included questions are about the same and factor loadings for excluded questions are close to zero).

-calculated from primary (quex) data

- 3.3. Sales growth compared to competitors: S\_GROWTH  
-manager's rating from single quex

## Explanatory variables

### 1. Restructuring

#### 1.1 Deep restructuring

- 1.1.a. Human capital restructuring: TRN\_EVAL  
-scale ( $\alpha=0.80$ ) of five questions (extent to which the firm has hired people with different abilities, trained core employees, trained new employees, workforce receives performance evaluations, uses performance appraisals for promotion and development).

- 1.1.b. Market diversification: DIVERS  
-scale ( $\alpha=0.70$ ) of three questions (extent to which the firm has diversified into new product markets, new geographic markets, increased exports); value of the indicator calculated by summing scores for the three questions and dividing by 3.

- 1.1.c. Strategic flexibility: STRFLX2  
-scale ( $\alpha=0.82$ ) of four questions (extent to which the firm says flexibility is a major part of strategy, it has adapted strategy to changing environment, changed deployment of resources, arranged production flexibly); value of the indicator calculated from factor scores; sum of four questions divided by 4.

#### 1.2 Defensive restructuring

- 1.2.a. Divest people and plants: DIVESTP2  
-scale ( $\alpha=0.82$ ) of four questions (extent to which the firm has laid off employees, closed plants, sold equipment, sold businesses); value of indicator calculated from factor scores; sum of four questions divided by 4

- 1.2.b. Divest products and markets: DIVESTM2  
-scale ( $\alpha=0.80$ ) of three questions (extent to which the firm has eliminated products, withdrawn from product markets, withdrawn from geographic markets); value of indicator calculated from factor scores; sum of three questions divided by 3.

## 2. Management

### Top management skills, experiences, and practices

2.1.a. Critical skills: M\_SKILL  
-scale ( $\alpha=0.89$ ) of six questions (compared to competitors does the firm have more or less managerial skills, strategic skills, organizational skills, technology skills, marketing experience, general management experience).

2.1.b. Legacy: M\_TEN\_VR  
-percent of top managers with the firm before Velvet Revolution

### 2.2. Absorptive capacity

2.2.a. Absorptive capacity ABSORB  
-scale of three questions (extent of agreement that ability to learn new knowledge is key to competitiveness, it is important to learn from partners and competitors, employee learning is an investment not an expense).

2.2.b. Top manager's education (years) M\_EDUC\_Y

2.2.c. Top management team age (youngest) TMT\_AGEY

2.3 Entrepreneurial orientation ENT\_OR  
-scale ( $\alpha=0.66$ ) comprising three questions (extent of agreement with strong emphasis on innovation, favor experimentation and original approaches to problem solving, proclivity for high risk projects with chances of high returns).

### 2.4. Industry and government relationships

2.4.a Social capital with government: SC\_GOV  
-scale ( $\alpha=0.84$ ) of three questions (extent of agreement that the firm was prepared to ensure good relationships with civil servants, invested time and effort into building relationships with civil servants, personal relationships with civil servants were important).

2.4.b Social capital with industry: SC\_IND  
-scale ( $\alpha=0.83$ ) of three questions (extent of agreement that the firm had social interaction with others with knowledge about the industry, put effort into building relationships with other executives, learned from interactions with people in the industry).

Firm's resources

- 2.5.a. Technology resources: TEK\_RES  
-scale ( $\alpha=0.89$ ) of three questions (extent of agreement that the firm has one of the most productive R&D groups, R&D spending is high, R&D employment is high)
  
- 2.5.b. Reputational resources: REP\_RES  
-scale ( $\alpha=0.85$ ) of four questions (extent of agreement that overall reputation of the firm is good, relationships with customers are good, relationships with suppliers are good, customers and suppliers believe the company is well managed).
  
- 2.5.c. Financial resources: FIN\_RES  
-scale ( $\alpha=0.85$ ) of four questions (current financial situation, borrowing capacity, net cash position, credit worthiness is good or poor).
  
- 2.5.d. Physical resources: REL\_RES  
-single question (extent of agreement that compared to our competitors our physical resources are better); no scale can be formed from the four questions about physical resources.

**3. Employees**

- 3.1. Employees' critical skills EMP\_SK  
-scale ( $\alpha=0.85$ ) comprising three questions (the firm is better or worse than competitors on employee initiative, responsibility, productivity).

**4. International Linkages**

4.1. Strategic alliances

- 4.1.a. Foreign alliances: FORGN\_AL  
-number of alliances with foreign firms (count)
  
- 4.1.b. Marketing alliances: MKTG\_AL  
-number of marketing alliances, foreign or domestic (count)
  
- 4.1.c. Total alliances: ALLIANCS  
-firm has strategic alliances, foreign or domestic (dummy variable)

4.2. Relationships with the West

- 4.2.a Social capital with the West: SC\_WEST

-scale ( $\alpha=0.92$ ) of three questions (extent of agreement that the management team developed strong relationships with Western executives, put a lot of effort into cultivating relationships with Western executives, maintained contacts with knowledgeable people in the West).

4.2.b International business experience: IB\_EXP  
 -scale ( $\alpha=0.73$ ) comprising two questions (international business experience and western work experience of top managers compared to competitors).

4.2.c Alternative construct used to prove that management related indicators enter the model via cross-relationships – combines SC\_WEST, TRNEVAL and IB\_EXP  
 - a factor with ( $\alpha=0.815$ )

variable name: MANAG

## 5. Ownership

### 5.1. Owner's identity

5.1.a Foreign ownership O\_FFIRM  
 -foreign firm ownership stake in the firm (%)

5.1.b Insider-management ownership O\_MGMT  
 -management ownership stake in the firm (%)

5.1.c Financial institution ownership O\_FININ  
 -financial institution ownership stake in the firm (%)

5.2 Concentration CONCEN  
 -firm's ownership is >50% held by management, employees, financial institutions, domestic firms, or foreign firms but not individual investors or government (dummy variable).  
 Alternative includes the use of any one of the category-specific ownership concentration dummy variables: concmgmt, concempl, concfin, concdom, concfor.

## 6. Controls

### 6.1. Firm characteristics

6.1.a. Firm size: EMPL\_01,  
 -number of employees, logarithm of number of employees

6.1.b. Firm age: AGE

-years since firm's founding

6.1.c. Privatization: PRIV\_YR  
-year of privatization

6.1.d Time since being privatized PRIVATE

## 6.2. Industry characteristics

6.2.a. Firm's industry: FIRST, UTILCONS, SECOND, THIRD  
-dummy variables to represent primary sector (agriculture, extractive industries), utilities or construction industries, secondary sector (manufacturing), and tertiary sector (services).

6.2.b. Firm's industry's growth: IND\_GROW  
-average annual industry growth from 1999-2001 **estimated by respondent**

6.2.c Firm's industry growth as obtained from Czech Statistical Office  
Cz99, Cz00, Cz01

6.2.c. Competition by foreign firm, suction effects created by inter year demand changes in major trading partner countries, Total Trade, Imports and exports effects: TRD\_EFF\_99\_00, TRD\_EFF\_00\_01, IMP\_EFF\_99\_00, IMP\_EFF\_00\_01, EXP\_EFF\_99\_00, EXP\_EFF\_00\_01<sup>59</sup>

- These figures were calculated as sums of industry growth rates in top 5 trading partner countries (Germany, France, Italy, Austria, United Kingdom) weighted by the respective share of the trading partner country on total trade volume across the five countries. These results were differentiated across imports, exports and total trading volume.

## 6.3. Business environment

6.3.a. Environmental uncertainty: ENV\_UN  
-scale ( $\alpha=0.77$ ) of three questions (agreement that the firm must change marketing practices frequently to keep up, rate that products become obsolete has dramatically increased, production technology has changed very much).

6.3.b. Government support: GOV\_SUP

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<sup>59</sup> Data on industry level production in countries other than the Czech republic was obtained from the Eurostat web presentation.

-scale ( $\alpha=0.79$ ) of three questions (extent to which government has implemented beneficial policies and programs, provided technological support, played a role in finding financial support).



## Appendix 2 COMPLETE LISTING OF VARIABLES AND ASSOCIATED QUESTIONS

### PART I: FIRM RESOURCES

Variable Name	Associated Survey Question
Space	<b>A. To what extent do you agree with the following statements?</b> 1. Currently our firm has sufficient space to perform its business
Assets	2. Currently our firm has sufficient physical assets to perform its business.
Obsolete	3. Many of the physical assets of our firm are technologically obsolete.
Rel_res	4. Compared to our major competitors, the quality of our physical resources (equipment, building) is better.
Pr_rd	5. We have one of the most productive R&D groups in our domestic industry.
RD_spend	6. Our average annual spending on R&D as percentage of sales is among the largest in the industry.
RD_emp	7. Compared to our competitors, we have a higher proportion of R&D employees.
Know_how	8. Our technological know how is at state-of-the-art.
Licences	9. Our licensing agreements provide us access to state-of-the-art technology.
Patents	10. How many patents does your firm currently hold?
Rdemp_pc	11: Which percentage of your total employees are involved in R&D?
Reputat	<b>B. To what extent do you agree with the following statements?</b> 12. The overall reputation of our company is good.
Rel_cus	13. Relationships of our company with our customers are good.
Rel_sup	14. Relationships of our company with our suppliers are good.
Cus_sup	15. Customers and suppliers are believe our company is well managed.

Variable Name	Associated Survey Question
Brand	16. The brand recognition of our products is good.
Fin_sit	<b>C. Please indicate your firm's financial condition.</b> 17. How is the current financial situation of your firm?
Borrow	18. How is the borrowing capacity of your firm?
Net_cash	19. How was the average net cash position of your firm during the last 12 month?
Credit	20. How is your current credit worthiness?
E_educ	<b>D. How does your firm compare to major competitors regarding ...</b> 21. The education of core employees?
E_comp	22. The compensation of core employees?
E_skill	23. The skills of core employees?
E_exp	24. The experience of core employees at their assigned tasks?
E_init	25. The initiative of core employees on their job?
E_resp	26. The responsibility core employees take on?
E_prod	27. The productivity of core employees?
E_educ_y	28. How many years of formal education (starting from elementary school through university) does your typical (median) core worker have?
M_m_skil	<b>E. How does your firm compare to major competitors regarding...</b> 29. Managerial skills?
M_s_skil	30. Strategic skills?
M_o_skil	31. Skills in organizing the many tasks performed?
M_t_exp	32. Technological experience of top managers?
M_mk_exp	33. Marketing experience of top managers?
M_gm_exp	34. General management experience of top managers?
M_ib_exp	35. International business experience of top managers?
M_w_exp	36. Work experience in Western countries of top managers?
M_ten_vr	37. What is the percentage of top managers with the firm since before the Velvet Revolution?
M_ten_l	38. What is the percentage of top managers with less than 1 year of tenure?
M_educ_y	39. How many years of formal education does the typical (median) manager have?

Variable Name	Associated Survey Question
Learn_pa	41. It is important for us to learn from our partners and competitors.
Learn_in	42. The sense around here is that employee learning is an investment, not an expense.
Learn_mi	43. The basic value of this firm is that making mistakes is just part of the learning process.
Tmt_num	44. How many members does the top management team (i.e. the individuals actively participating in strategic decision making) currently have?
Tmt_ageo	45. What is the age of the oldest and the youngest member of this team:
Tmt_agey	_____ years _____ years
Cd_prof	<b>G. How strongly do members of the top management team agree or disagree with each other about ...</b>  46. The best way to maximize the firm's long term profitability.
Cd_goals	47. What the firm's goals and priorities should be
Cd_surv	48. The way to ensure the firms' long-run survival
Cd_obj	49. Which organizational objectives should be considered most important
Sc_cs_rl	<b>H. To what extent do you agree with the following statements about your firm over the past three years?</b>  50. Our firm was prepared to ensure good relationships with civil servants.
Sc_cs_in	51. We invested a lot of time and effort into building relationships with civil servants.
Sc_cs_im	52. Personal relationships with civil servants have been important to us.
Sc_in_si	53. Our management team had social interaction with other people with knowledge about conditions in the industry.
Sc_in_kn	54. Our management put a lot of effort in building relationships with other executives knowledgeable in the industry.
Sc_in_in	55. We learned a lot from our interactions with people in our industry.
Sc_wf_st	56. Our management team developed strong relationships with executives from Western firms.
Sc_wf_ef	57. Our management team put a lot of efforts into cultivating relationships with executives from Western countries.

Variable Name	Associated Survey Question
	<b>PART II: THE ROLE OF TOP MANAGEMENT TEAM PROCESSES</b>
Eo_d_c	<p><b>I. Please indicate the extent to which you agree with the following statements about your firm's top management team.</b></p> <p>1. In dealing with competitors, team members typically seek to avoid direct competition, preferring a "live-and-let-live posture".</p>
Eo_rd_in	2. The top managers of my firm favor a strong emphasis on R&D and innovations.
Eo_exper	3. The top managers of the firm favor experimentation and original approaches to problem solving.
Eo_adopt	4. The top managers of my firm favor adopting methods other firms have used for solving their problems.
Eo_risk	5. The top managers of my firm have a strong proclivity for high-risk projects with chances of high returns.
Bi_trust	6. Team members trust each other.
Bi_sh_rs	7. Team members share responsibility for decisions.
Bi_sh_if	8. Team members share relevant information with each other.
Bi_help	9. Team members help each other solve problem
Bi_sh_re	10. Team members share resources with each other.
	<b>PART III: FIRM ENVIRONMENT</b>
Eu_mktg	<p><b>J. Please indicate the extent to which you agree with each statement as it applies to your firm's primary industry.</b></p> <p>1. Our firm must change its marketing practices frequently to keep up with the market and competitors.</p>
Eu_obs	2. The rate at which products or services become obsolete in our principal industry has dramatically increased in recent years.
Eu_chg	3. The production/service technology in our principal industry has changed very much.
<b>Variable Name</b>	<b>Associated Survey Question</b>
Eu_taste	5. Demand and consumer tastes are difficult to

	predict.
Is_pp	<b>K. Please indicate the extent to which in the last three years government and its agencies have:</b> 6. Implemented policies and programs that have been beneficial to our firm's operations.
Is_ti	7. Provided needed
Is_fin	8. Played a significant role in finding financial support for our firm.
Is_leg	9. Provided an effective legal system for business transactions.
Is_expor	10. Taken actions to facilitate exports and develop operations in other countries.
Lay offs	<b>PART IV: ORGANIZATIONAL TRANSFORMATION</b> <b>L. Please indicate the extent to which the following activities occurred in your firm over the past three years.</b> 1. There were employee lay-offs.
Closures	2. There were permanent facility closures.
Sales_pe	3. There were sales of production equipment.
Sales_bu	4. We sold off some of our business units.
Ra_sim	5. The firm has hired personnel with abilities similar to existing personnel
Ra_dif	6. The firm has hired personnel with abilities different from existing personnel
Ra_ph_as	7. The firm has acquired physical assets
Ra_fr_it	8. The firm has received financial resources from internal sources (e.g., owners)
Ra_fr_ex	9. The firm has received financial resources from external sources
Ru_t&e	<b>M. Please indicate the extent to which the following activities occurred in your firm over the past three years.</b> 10. The firm has invested in training and education of its core employees.
Ru_hires	11. There are formal training programs to teach new hires the skills they need to perform their jobs.
Ru_perfe	12. The workforce receives formal performance evaluations.
<b>Variable Name</b>	<b>Associated Survey Question</b>
Pr_elim	14. The firm has eliminated products from its

	product line.
Pr_wd_pm	15. The firm withdrew from product markets.
Pr_wd_gm	16. The firm withdrew from geographic markets.
Pd_newp	17. The firm has increased the number of products in its product line.
Pd_newpm	18. The firm has diversified into new product markets.
Gd_newgm	19. The firm has diversified into new geographical markets.
Gd_expts	20. The firm has increased its exports to foreign markets.
Sf_cstrat	<b>N. Please indicate the extent to which the following activities occurred in your firm over the past three years.</b> 21. Our competitive strategies have changed a lot.
Sf_unexp	22. In some unexpected situations, we changed our original strategies.
Sf_major	23. Flexibility is the major characteristic of our competitive strategy.
Sf_adapt	24. We have adapted our strategy to the changing environment.
Sf_deplr	25. We tried to change the deployment of our resources for adapting to environmental changes.
Sf_funds	26. We have modified operating and investing activities to generate funds.
Sf_cp_rd	27. We have provided support for competing R&D projects.
Sf_mktg	28. We have used different marketing approaches to achieve similar goals (e.g., using various distribution channels to reach similar customers).
Sf_prod	29. We have tried to arrange production activities in a flexible manner

#### PART V: FIRM PERFORMANCE

1. Please provide the following information.

	1999	2000	2001
Total revenues	Rev_99	Rev_00	Rev_01
Fixed assets	Asset_99	Asset_00	Asset_01
Profit before taxes	Prof_99	Prof_00	Prof_01
R&D expenditures	Rd_99	Rd_00	Rd_01
Employment	Empl_99	Empl_00	Empl_01

2. How does your firm perform compared to its major competitors?

Variable Name	Associated Survey Question
Ros	a) After tax return on total assets – Subjective rating
Roa	b) After tax return on total sales – Subjective rating
S_growth	c) Firm total sales growth – Subjective rating
Perf	d) Overall firm performance and success – Subjective rating
Comp_adv	e) Firm competitive advantages – Subjective rating

### PART VI: GENERAL FIRM INFORMATION

Variable Name	Associated Survey Question
Founding	Year of founding of the firm
Priv	Year of privatization of the firm
Spin off	Is your firm a spin-off of a larger organization
	Current ownership (check all that apply; provide percentage if available):
O_mgmt	Management
O_empl	Employees
O_iinv	Indiv. Investor/s
O_finin	Finan. Institution/s
O_dfirm	Domestic Firm/s
O_ffirm	Foreign Firm/s
O_govt	Government
	Dummy variables:
O_mgmtd	Management
O_empld	Employees
O_iinvd	Indiv. Investor/s
O_finind	Finan. Institution/s
O_dfirmd	Domestic Firm/s
O_ffirmd	Foreign Firm/s
O_govtd	Government
Ind_nam	Name of your primary industry
Ind_code	NACE code
Ind_growth	Average yearly growth of industry (1999-2001):
diversif	Degree of diversification of your firm: <ul style="list-style-type: none"> <li>• (4) Conglomerate diversified in unrelated businesses</li> <li>• (3) Firm diversified into related businesses</li> </ul>

	<ul style="list-style-type: none"> <li>• (1) Firm focused on one main business</li> <li>• (2) Firm vertically integrate</li> </ul>
M&a	How many firms have you acquired over the last 10 years?
Alliances	A strategic alliance is a long term technology, production, or marketing agreement with close cooperation but no equity stake; ordinary distribution arrangements or arm's-length licensing agreements are not strategic alliances unless they include other cooperation.
Mktg_al	Do you have any strategic alliances with other companies ?
Rd_al	If yes, among those alliances, how many are marketing alliances?
Rd_ff	Among those alliances, how many are R&D alliances?
	Among those alliances, how many are alliances with foreign firms?
	<b>PART VII: RESPONDENT PROFILE</b>
Resp_age	What is your age?
Resp_edu	What is the highest level of education you have?
R_gender	Gender:
R_title	What is your current position/title
R_positn	How long have you been working in this position (in years)?
R_tenure	How long have you been working in this firm (in years)?
Summary	If you are interested in the Executive Summary of the study results, please tick here.

Variable Name	Description
CoName	Company name as listed in ISI database
City	City address of CoName in ISI database
Origin	Date of incorporation from ISI database
ICO	Firm number written on survey, used to link the databases
S_emp##	Secondary dataset (ISI database) for number of employees listed in year ##
S_rev##	Secondary dataset (ISI database) for firm revenues reported in years ##
S_ass##	Secondary dataset (ISI database) for firm assets reported in year ##
S_pro##	Secondary dataset (ISI database) for firm profits reported in year ##
S_eq##	Secondary dataset (ISI database) for firm equity reported in year ##
Own_1	Secondary dataset (ISI database) owner #1
Prct_1	Percent of ownership for Owner #1
Own_2	Secondary dataset (ISI database) owner #2
Prct_2	Percent of ownership for Owner #2
Own_3	Secondary dataset (ISI database) owner #3
Prct_3	Percent of ownership for Owner #3
Own_4	Secondary dataset (ISI database) owner #4
Prct_4	Percent of ownership for Owner #4
Pros_ ##	Primary Return on Sales (from ISI dataset) for year ## = profits / sales (=



	pro ## / rev ##)
ros_##	Secondary Return on Sales (from ISI dataset) for year ## = profits / sales (= S_pro## / S_rev##)

## Appendix 3 RESULTS OF REGRESSION AND OTHER DATA ANALYSES

Dependent variable: ROA9901

Number of observations: 53

Mean of dep. var. = 1.82891575  
 Std. dev. of dep. var. = 6.47779356  
 Sum of squared residuals = 738.579878  
 Variance of residuals = 22.3812084  
 Std. error of regression = 4.73087819  
 R-squared = .661514615  
 Adjusted R-squared = .466629091  
 LM het. test = 11.6536820  
 F (zero slopes) = 3.39437533

Variable	Estimated Coefficient	Standard Error
C	9.78828240	11.9536034
TEKRES	.239113892	.655051034
REPRES	1.19043540	1.55262889
FINRES	.865267877	.769794735
MSKILL	.341805862	1.47994884
IBEXP	-.819937910	1.02047106
ABSORB	-1.27333409	1.13973103
SCGOV	-.124438125	.684092781
SCIND	.390670288	.906740123
SCWEST	-.060671472	.602908263
ENVUN	.341370403	.751534090
GOVSUP	-.166028097	.784383659
DIVESTP2	-2.45203207	.679266372
DIVESTM2	-1.03055993	.649923863
STRFLX2	.391431563	.958256425
TRNEVAL	1.38867849	1.00825025
PERFAL2	-.537739580	1.46725651
DIVERSIX	-.039474565	.612704887
ALLIANCS	-4.15146824	1.48426680
CONCEN	-3.03614111	1.62194230

Table 5. Results of the initial effort to form the base model

## Correlation Matrix

	ROA9901	MTENVR	TRNEVAL	DIVERS
ROA9901	1.00000000			
MTENVR	-0.19550671	1.00000000		
TRNEVAL	0.0032435842	-0.083803862	1.00000000	
DIVERS	0.080819921	-0.090581519	0.52918946	1.00000000
DIVESTP2	-0.49412063	0.14611162	0.052154440	-0.11634436
DIVESTM2	-0.38028613	0.19901487	-0.0018699149	0.065730614
ENTOR	0.028459474	-0.22088885	0.58715666	0.41947689
ABSORB	-0.051995230	-0.088403136	0.38890105	0.19908381
SCIND	-0.097971027	-0.10992628	-0.023317075	0.0027165956
SCWEST	-0.15855957	0.24441542	0.36795106	0.41851078
STRFLX2	-0.10622807	0.0041122056	0.46462225	0.48553916
IBEXP	-0.0019434478	0.074165072	0.31550823	0.25279222
MSKILL	0.00051305644	-0.16817975	0.49892257	0.43539338
OMGMT	0.22742108	-0.25414346	-0.036211857	0.13412690
OEMPL	-0.028391531	-0.084578729	-0.25536918	-0.16685575
OFININ	-0.012811276	0.20871408	0.0026768667	0.12304836
ODFIRM	-0.28782254	-0.034062410	0.019223216	-0.063589997
OFFIRM	0.12382653	0.088079052	0.15797986	0.10585195
OGOVT	-0.058913838	0.19811561	0.022079091	-0.072296249
ASST01	-0.035254668	0.055381500	0.30273284	0.070418574
FINRES	0.39126753	0.017485354	0.29595548	0.21406431
FIRST	-0.021263673	-0.057939222	-0.37008553	-0.34063426
SECOND	-0.022384940	0.081897723	0.15515239	0.12051940
THIRD	0.0013027186	0.038472636	0.18424677	0.16043555
OTHERIND	-0.028050571	-0.086028528	0.054655307	0.12927015
AVKL	0.16141057	-0.068144606	0.16589585	0.060178405
DIVERSITY	0.16018624	0.060968090	0.054168444	0.27381843

	DIVESTP2	DIVESTM2	ENTOR	ABSORB
DIVESTP2	1.00000000			
DIVESTM2	0.54497785	1.00000000		
ENTOR	0.029090684	-0.0067417155	1.00000000	
ABSORB	-0.096161751	-0.19363182	0.33021121	1.00000000
SCIND	0.091405253	0.094520790	0.16168075	0.21833221
SCWEST	0.098502281	0.25053716	0.21857774	0.17187426
STRFLX2	0.017280401	0.10531660	0.55314784	0.30811062
IBEXP	0.11115339	0.20427959	0.23281302	0.0086688349
MSKILL	0.0066299686	-0.034579189	0.42409950	0.22789951
OMGMT	-0.18178103	-0.045822894	0.14576570	-0.077795306
OEMPL	-0.064126208	-0.15058423	-0.29950750	0.042158410
OFININ	0.097584497	0.035405199	0.068566635	-0.19148282
ODFIRM	0.18461169	-0.016874231	-0.092315892	0.083060698
OFFIRM	-0.21503992	-0.010090130	0.13521566	0.11833767
OGOVT	0.22441971	0.23057510	-0.084879178	-0.038254669
ASST01	0.19326642	0.20046219	0.21880899	0.13881230
FINRES	-0.13286892	-0.13415920	0.31226731	0.067187066
FIRST	0.094114670	-0.061694775	-0.27486326	-0.29274174
SECOND	-0.083015871	0.040644140	0.13633079	0.18720358
THIRD	-0.042626117	0.0079254821	0.11978015	0.097074599
OTHERIND	0.16087577	0.063483622	-0.016193757	0.017279503

AVKL	0.055743545	-0.15398068	-0.025125715	0.10768305
DIVERSITY	-0.21212007	-0.12981060	0.071587974	0.19190333

	SCIND	SCWEST	STRFLX2	IBEXP
SCIND	1.0000000			
SCWEST	0.13547746	1.00000000		
STRFLX2	0.17196434	0.44189581	1.00000000	
IBEXP	-0.14407606	0.55701063	0.34515500	1.00000000
MSKILL	0.025572464	0.40526983	0.43544749	0.68793840
OMGMT	-0.031649002	-0.10522321	0.13422492	0.12113005
OEMPL	-0.060472947	-0.13532235	-0.22530528	-0.12695634
OFININ	-0.026210866	0.073737234	0.010819374	0.10512491
ODFIRM	-0.024251272	-0.13430544	-0.13504063	-0.11615595
OFFIRM	0.056791975	0.28369162	0.27690474	0.093084826
OGOVT	0.11174438	0.16619395	-0.11954894	0.12866975
ASST01	0.028421304	0.18329842	0.091297960	0.12099181
FINRES	0.081292351	0.11534929	0.11374891	0.23682766
FIRST	0.18380207	-0.19885705	-0.23104233	-0.091296859
SECOND	-0.21641829	0.068088886	0.11534134	-0.047132138
THIRD	0.18300419	0.17611399	0.062348438	0.14267403
OTHERIND	-0.10160642	0.023884233	0.093748809	0.099567335
AVKL	-0.10540361	-0.14256246	-0.12486611	0.081586785
DIVERSITY	0.13637363	0.19403539	0.18091026	-0.036046591

	MSKILL	OMGMT	OEMPL	OFININ
MSKILL	1.00000000			
OMGMT	0.12735137	1.00000000		
OEMPL	-0.19299961	0.0044959149	1.00000000	
OFININ	0.067848002	-0.097462293	-0.030061416	1.00000000
ODFIRM	0.062187149	-0.58802752	-0.13480310	-0.12936941
OFFIRM	-0.0072235527	-0.28842691	-0.10354943	-0.080505292
OGOVT	-0.057488840	-0.15424992	-0.043959086	-0.032444128
ASST01	0.15479523	-0.18945230	-0.046441721	0.062892021
FINRES	0.33661037	-0.053313123	-0.27911904	0.088340442
FIRST	-0.0007160561	-0.086076797	-0.10530761	-0.093196685
SECOND	-0.13810600	0.056323778	0.14833588	0.021123651
THIRD	0.18328724	0.033995661	-0.066389080	0.11165911
OTHERIND	0.0056762169	-0.14479593	-0.042889703	-0.037312103
AVKL	0.25248689	-0.30875600	-0.13246790	-0.094321851
DIVERSITY	0.020279800	0.099264220	0.052211509	-0.054113488

	ODFIRM	OFFIRM	OGOVT	ASST01
ODFIRM	1.00000000			
OFFIRM	-0.23915183	1.00000000		
OGOVT	-0.092984228	-0.065226834	1.00000000	
ASST01	0.14343875	0.064238578	0.044155976	1.00000000
FINRES	-0.0061313408	0.16168297	0.15946801	0.037154491
FIRST	0.32702573	-0.15895764	-0.067369413	-0.060313582
SECOND	-0.17502876	0.13368016	-0.11592272	0.097824810
THIRD	-0.13935607	-0.12318060	0.28431538	-0.051062234
OTHERIND	0.082462279	0.22944169	-0.026971930	-0.027546665
AVKL	0.35471799	0.14702870	0.019819511	0.25872679
DIVERSITY	-0.076750543	0.038683975	0.021484608	-0.077032640

	FINRES	FIRST	SECOND	THIRD
FINRES	1.0000000			
FIRST	-0.11343200	1.0000000		
SECOND	-0.084249575	-0.66755449	1.0000000	
THIRD	0.21700748	-0.12722685	-0.51730613	1.00000000
OTHERIND	0.080798961	-0.065730531	-0.26726124	-0.050936377
AVKL	0.18615663	0.18441752	-0.14335856	-0.077324786
DIVERSITY	0.094459789	-0.13275009	-0.036751066	0.035388973
	OTHERIND	AVKL	DIVERSITY	
OTHERIND	1.00000000			
AVKL	0.21592585	1.00000000		
DIVERSITY	0.0015531991	-0.19392806	1.00000000	

Table 6. Correlations among a selection of explanatory variables

## Appendix 4 RESULTS OF CROSS-REGRESSIONS BETWEEN EXPLANATORY VARIABLES<sup>60</sup>

Group:	action	action	action	Defensive		Deep		resource	resource	resource	resource
Variable:	scgov	scind	scwest	divestp2	divestm2	trneval	divers	tekres	repres	finres	empsk
R2	0,43	0,52	0,64	0,75	0,63	0,61	0,76	0,58	0,66	0,57	0,66
R2 adj.	0,07	0,22	0,41	0,59	0,40	0,37	0,61	0,32	0,45	0,30	0,45
C				7,76		-5,56	3,93		4,42		
p-value				0,00		0,00	0,10		0,00		
tekres			0,36								
p-value			0,07								
repres		0,53		-0,88			-0,59				
p-value		0,10		0,00			0,07				
Finres		0,23		-0,34							0,17
p-value		0,13		0,03							0,11
empsk											-0,43
p-value											0,11
mskill					-0,73						0,55
p-value					0,08						0,12
lbexp		0,36	0,61								0,59
p-value		0,06	0,02								0,01
absorb				-0,47		0,42	-0,53				
p-value				0,04		0,03	0,02				
Scgov											
p-value											
Scind							0,31		0,15		
p-value							0,07		0,10		
scwest		0,11						0,27			
p-value		0,09						0,07			
Entor			-0,86	1,11			1,00	0,92	0,45		
p-value			0,05	0,00			0,00	0,01	0,04		
Envun											
p-value											
govsup											
p-value											
divestp2	-0,25		-0,42				-0,25				0,35
p-value	0,00		0,03				0,04				0,00
divestm2				-0,12							
p-value				0,08							
Divers	-0,17						-0,29		0,31		0,32

<sup>60</sup> Only relationships that are significant or on the borderline of significance on acceptable confidence levels are shown

p-value	0,07			0,02	0,07	0,00
strflx2	-0,38					
p-value	0,11					
trneval				0,32		
p-value				0,03		
Perfal2						
p-value						
diversix						
p-value						
alliancs				-0,35		0,37
p-value				0,10		0,02
concen	0,41			-0,47		0,42
p-value	0,10			0,07		0,03

## Part 2:

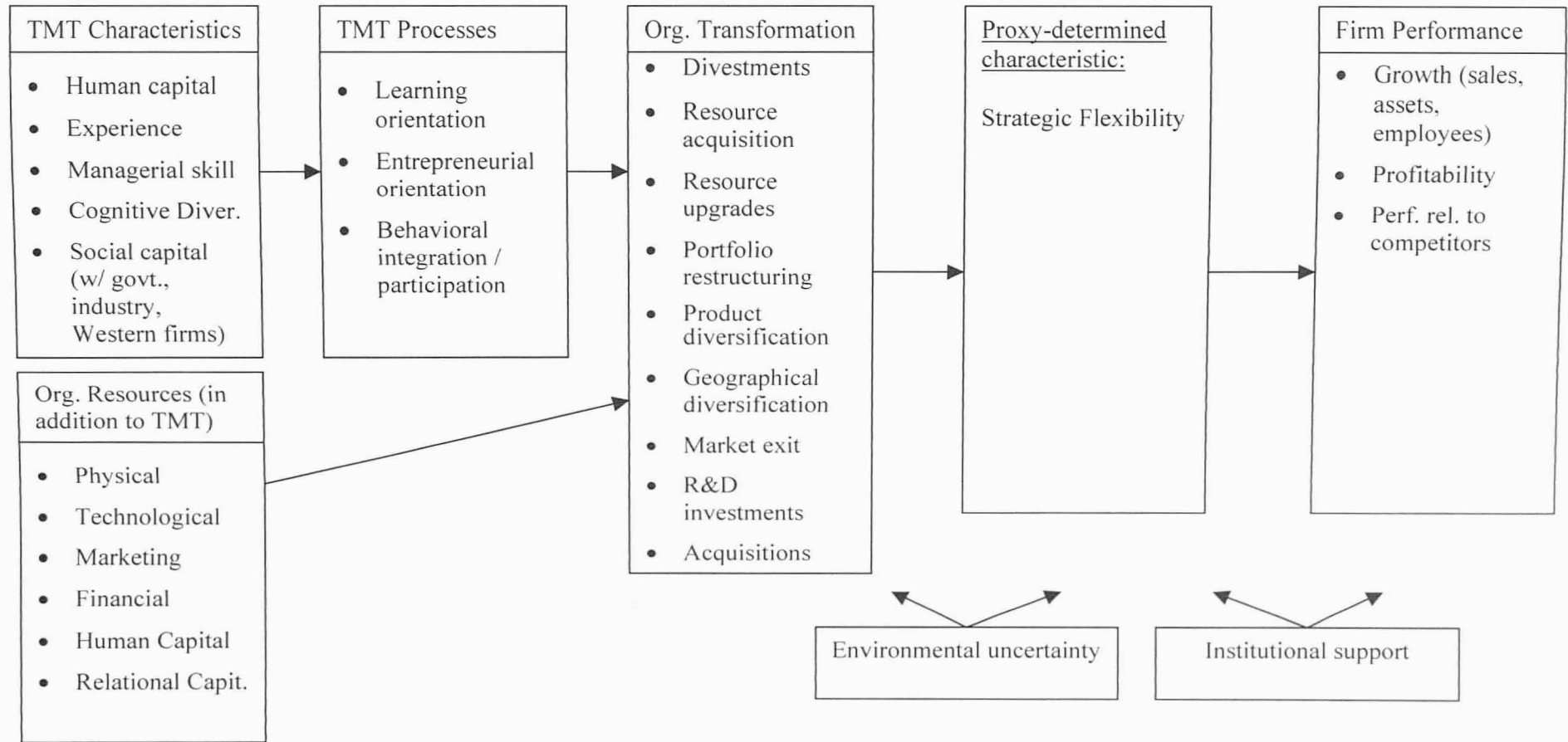
Group:	trait	trait	trait	trait	trait	external	external	external	external	external
Variable:	mskill	ibexp	absorb	entor	strflx2	envun	govsup	perfal2	diversix	alliancs
R2	0,77	0,73	0,55	0,84	0,67	0,36	0,40	0,56	0,32	0,32
R2 adj.	0,63	0,57	0,26	0,75	0,47	0,00	0,03	0,28	0,00	-0,11
C			5,24	-3,32						
p-value			0,00	0,01						
tekres				0,19						
p-value				0,01						
repres				0,50	-0,20					
p-value				0,00	0,11					
finres				0,13						
p-value				0,12						
empsk								0,24		
p-value								0,12		
mskill	0,34	0,80								
p-value	0,01	0,00								
ibexp	0,29									
p-value	0,00									
absorb				0,25						
p-value				0,06						
scgov			0,15							
p-value			0,12							
scind		-0,30								
p-value		0,06								
scwest		0,24		-0,13						
p-value		0,02		0,05						
Entor			0,43		0,63					
p-value			0,06		0,01					
envun										
p-value										
govsup			-0,28	0,47						

p-value	0,06	0,02		
divestp2	0,72	-0,52		
p-value	0,00	0,00		
divestm2	0,42	0,29		
p-value	0,00	0,02		
divers	0,50		0,24	0,49
p-value	0,02		0,10	0,03
strflx2			0,28	
p-value			0,03	
trneval				
p-value				
Perfal2		0,06	0,49	
p-value		0,10	0,03	
diversix		-0,43		
p-value		0,03		
alliancs	-0,62			
p-value	0,03			
concen	-0,81	-0,65		
p-value	0,02	0,06		



## Appendix 5 GENERAL CONCEPTUAL MODEL

This scheme portrays the basic causalities between groups of indicators as available from the field survey.



# Appendix 6 QUESTIONNAIRE USED IN THE FIELD SURVEY AS SENT TO EXECUTIVES

## A SURVEY OF FIRMS' STRATEGIC FLEXIBILITY IN ECONOMIC TRANSITION

Dear Senior Executive:

This important survey examines how top managers can exploit their firm's resources so as to improve strategic flexibility and performance in economic transition. We define top managers as those individuals significantly influencing and actively participating in the firm's strategic decision making. It may take you 20-30 minutes to fill out the survey. Please consider your firm's real situations in answering the questions. All responses will be treated in strictest confidence and are only for research purposes. An Executive Summary of the study results will be send to you upon request. We appreciate your support of this research.

### (i) PART I: FIRM RESOURCES

A. To what extent do you agree with the following statements?

	Strongly Disagree							Strongly Agree	N/A
1. Currently our firm has sufficient space to perform its business.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
2. Currently our firm has sufficient physical assets to perform its business.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
3. Many of the physical assets of our firm are technologically obsolete.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
4. Compared to our major competitors, the quality of our physical resources (equipment, buildings) is better.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
5. We have one of the most productive R&D groups in our domestic industry.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
6. Our average annual spending on R&D as percentage of sales is among the largest in our industry.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
7. Compared to our competitors, we have a higher proportion of R&D employees.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
8. Our technological know how is at state-of-the-art.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
9. Our licensing agreements provide us access to state-of-the-art technology.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
10. How many patents does your firm currently hold?								_____	
11. Which percentage of your total employees are involved in R&D?								_____	

B. To what extent to do you agree with the following statements?

	Strongly Disagree							Strongly Agree	N/A
12. The overall reputation of our company is good.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
13. Relationships of our company with our customers are good.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	

14. Relationships of our company with our suppliers are good.      0   0   0   0   0   0   0   0
15. Customers and suppliers believe our company is well managed.      0   0   0   0   0   0   0   0
16. The brand recognition of our products is good.      0   0   0   0   0   0   0   0

C. Please indicate your firm's financial condition

- |   | Very Poor |        |        |        |        |        | Very Good | N/A                      |
|---|-----------|--------|--------|--------|--------|--------|-----------|--------------------------|
| 17. How is the current financial situation of your firm?                          | 0<br>1    | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7    | <input type="checkbox"/> |
| 18. How is the borrowing capacity of your firm?                                   | 0<br>1    | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7    | <input type="checkbox"/> |
| 19. How was the average net cash position of your firm during the last 12 months? | 0<br>1    | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7    | <input type="checkbox"/> |
| 20. How is your current credit worthiness?  | 0<br>1    | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7    | <input type="checkbox"/> |

D. How does your firm compare to major competitors regarding ...

- |  | We are much worse |        |        | About equal |        | We are much better |        | N/A                      |
|--|-------------------|--------|--------|-------------|--------|--------------------|--------|--------------------------|
| 21. The education of core employees?   | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 22. The compensation of core employees?  | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 23. The skills of core employees?  | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 24. The experience of core employees at their assigned tasks?  | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 25. The initiative of core employees on their job?   | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 26. The responsibility core employees take on?   | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 27. The productivity of core employees?  | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6             | 0<br>7 | <input type="checkbox"/> |
| 28. How many years of formal education (starting from elementary school through university) does your typical (median) core worker have? | _____             |        |        |             |        |                    |        |                          |

E. How does your firm compare to major competitors regarding ...

- |  | We have much less |        |        | About equal |        | We have much more |        | N/A                      |
|--|-------------------|--------|--------|-------------|--------|-------------------|--------|--------------------------|
| 29. Managerial skills?                             | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6            | 0<br>7 | <input type="checkbox"/> |
| 30. Strategic skills?                              | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6            | 0<br>7 | <input type="checkbox"/> |
| 31. Skills in organizing the many tasks performed? | 0<br>1            | 0<br>2 | 0<br>3 | 0<br>4      | 0<br>5 | 0<br>6            | 0<br>7 | <input type="checkbox"/> |

- 32. Technological experience of top managers?  1  2  3  4  5  6  7
- 33. Marketing experience of top managers?  1  2  3  4  5  6  7
- 34. General management experience of top managers?  1  2  3  4  5  6  7
- 35. International business experience of top managers?  1  2  3  4  5  6  7
- 36. Work experience in Western countries of top managers?  1  2  3  4  5  6  7

37. What is the percentage of top managers with the firm since before the Velvet Revolution? \_\_\_\_\_%

38. What is the percentage of top managers with less than 1 year of tenure? \_\_\_\_\_%

39. How many years of formal education does the typical (median) manager have? \_\_\_\_\_

F. To what extent do you agree with the following statements?

- |  | Strongly Disagree       |                         |                         |                         |                         |                         |                         | Strongly Agree           |  | N/A |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--|-----|
| 40. Top managers basically agree that our firm's ability to learn new knowledge is the key to our competitive advantage. | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |
| 41. It is important for us to learn from our partners and competitors.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |
| 42. The sense around here is that employee learning is an investment, not an expense.                                    | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |
| 43. The basic value of this firm is that making mistakes is just part of the learning process.                           | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |

44. How many members does the top management team (i.e., the individuals actively participating in strategic decision making) currently have? \_\_\_\_\_

45. What is the age of the oldest and the youngest member of this team: \_\_\_\_\_ years \_\_\_\_\_ years

G. How strongly do members of the top management team agree or disagree with each other about ...

- |   | Strongly Disagree       |                         |                         |                         |                         |                         |                         | Strongly Agree           |  | N/A |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--|-----|
| 46. The best way to maximize the firm's long term profitability         | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |
| 47. What the firm's goals and priorities should be                      | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |
| 48. The way to ensure the firm's long-run survival                      | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |
| 49. Which organizational objectives should be considered most important | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="checkbox"/> |  |     |

H. To what extent do you agree with the following statements about your firm over the past three years?

Strongly Disagree  Strongly Agree  N/A

50. Our firm was prepared to ensure good relationships with civil servants.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
51. We invested a lot of time and effort into building relationships with civil servants.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
52. Personal relationships with civil servants have been important to us.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
53. Our management team had social interaction with other people with knowledge about conditions in our industry.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
54. Our management put a lot of effort in building relationships with other executives knowledgeable in the industry.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
55. We learned a lot from our interactions with people in our industry.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
56. Our management team developed strong relationships with executives from Western firms.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
57. Our management team put a lot of efforts into cultivating relationships with executives from Western countries.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
58. Our firm maintained contacts with knowledgeable people in Western countries.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>

## (II) PART II: THE ROLE OF TOP MANAGEMENT TEAM PROCESSES

I. Please indicate the extent to which you agree with the following statements about your firm's top management team.

	Strongly Disagree						Strongly Agree		N/A
	0 1	0 2	0 3	0 4	0 5	0 6	0 7		<input type="checkbox"/>
1. In dealing with competitors, team members typically seek to avoid direct competition, preferring a "live-and-let-live posture".	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
2. The top managers of my firm favor a strong emphasis on R&D and innovations.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
3. The top managers of the firm favor experimentation and original approaches to problem solving.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
4. The top managers of my firm favor adopting methods other firms have used for solving their problems. (r).	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
5. The top managers of my firm have a strong proclivity for high-risk projects with chances of high returns.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
6. Team members trust each other.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
7. Team members share responsibility for decisions.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
8. Team members share relevant information with each other.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
9. Team members help each other solve problems.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	
10. Team members share resources with each other.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>	

**(III) PART III: FIRM ENVIRONMENT**

K. Please indicate the extent to which you agree with each statement as it applies to your firm's primary industry.

	Strongly Disagree						Strongly Agree	N/A
	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
1. Our firm must change its marketing practices frequently to keep up with the market and competitors	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
2. The rate at which products or services become obsolete in our principal industry has dramatically increased in recent years.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
3. The production/service technology in our principal industry has changed very much.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
4. Actions of competitors are difficult to predict.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
5. Demand and consumer tastes are difficult to predict.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>

L. Please indicate the extent to which in the last three years government and its agencies have:

	To No Extent						To a Great Extent	N/A
	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
6. Implemented policies and programs that have been beneficial to our firm's operations.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
7. Provided needed technology information and technical support to our firm.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
8. Played a significant role in finding financial support for our firm.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
9. Provided an effective legal system for business transactions.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
10. Taken actions to facilitate exports and develop operations in other countries.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>

**PART IV: ORGANIZATIONAL TRANSFORMATION**

M. Please indicate the extent to which the following activities occurred in your firm over the past three years.

	Not at All						To a Large Extent	N/A
	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
1. There were employee lay-offs.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
2. There were permanent facility closures.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
3. There were sales of production equipment.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
4. We sold off some of our business units.	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>
5. The firm has hired personnel with abilities similar to existing personnel	0 1	0 2	0 3	0 4	0 5	0 6	0 7	<input type="checkbox"/>

- |   |        |        |        |        |        |        |        |                          |
|---|--------|--------|--------|--------|--------|--------|--------|--------------------------|
| 6. The firm has hired personnel with abilities different from existing personnel  | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 7. The firm has acquired physical assets  | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 8. The firm has received financial resources from internal sources (e.g., owners) | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 9. The firm has received financial resources from external sources                | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |

O. Please indicate the extent to which the following activities occurred in your firm over the past three years.

- |   | Not at<br>All |        |        |        |        |        | To a Large<br>Extent | N/A                      |
|---|---------------|--------|--------|--------|--------|--------|----------------------|--------------------------|
| 10. The firm has invested in training and education of its core employees.                            | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 11. There are formal training programs to teach new hires the skills they need to perform their jobs. | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 12. The workforce receives formal performance evaluations.  | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 13. Formal performance appraisals are used to facilitate promotion decisions or to develop employees. | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 14. The firm has eliminated products from its product line.   | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 15. The firm withdrew from product markets.   | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 16. The firm withdrew from geographic markets.  | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 17. The firm has increased the number of products in its product line.                                | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 18. The firm has diversified into new product markets.  | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 19. The firm has diversified into new geographical markets.   | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 20. The firm has increased its exports to foreign markets.  | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |

P. Please indicate the extent to which the following activities occurred in your firm over the past three years.

- |  | Not at<br>All |        |        |        |        |        | To a Large<br>Extent | N/A                      |
|--|---------------|--------|--------|--------|--------|--------|----------------------|--------------------------|
| 21. Our competitive strategies have changed a lot.                       | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 22. In some unexpected situations, we changed our original strategies.   | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 23. Flexibility is the major characteristic of our competitive strategy. | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |
| 24. We have adapted our strategy to the changing environment.            | 0<br>1        | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7               | <input type="checkbox"/> |

- |  |        |        |        |        |        |        |        |                          |
|--|--------|--------|--------|--------|--------|--------|--------|--------------------------|
| 25. We tried to change the deployment of our resources for adapting to environmental changes.  | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 26. We have modified operating and investing activities to generate funds.   | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 27. We have provided support for competing R&D projects.   | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 28. We have used different marketing approaches to achieve similar goals (e.g., using various distribution channels to reach similar customers). | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |
| 29. We have tried to arrange production activities in a flexible manner.   | 0<br>1 | 0<br>2 | 0<br>3 | 0<br>4 | 0<br>5 | 0<br>6 | 0<br>7 | <input type="checkbox"/> |

(IV)

(V) PART V: FIRM PERFORMANCE

1. Please provide the following information.

	1999	2000	2001	
a) Total revenues	<input type="text"/>	<input type="text"/>	<input type="text"/>	in 1,000 CZK
b) Fixed assets	<input type="text"/>	<input type="text"/>	<input type="text"/>	in 1,000 CZK
c) Profit before taxes	<input type="text"/>	<input type="text"/>	<input type="text"/>	in 1,000 CZK
d) R&D expenditures	<input type="text"/>	<input type="text"/>	<input type="text"/>	in 1,000 CZK
e) Employment		<input type="text"/>	<input type="text"/>	<input type="text"/> no. of employees

2. How does your firm perform compared to its major competitors?

a) After tax return on total assets	Lowest 20%	Lower 20%	Middle 20%	Next 20%	Top 20%
b) After tax return on total sales	Lowest 20%	Lower 20%	Middle 20%	Next 20%	Top 20%
c) Firm total sales growth	Lowest 20%	Lower 20%	Middle 20%	Next 20%	Top 20%
d) Overall firm performance and success	Lowest 20%	Lower 20%	Middle 20%	Next 20%	Top 20%
e) Firm competitive advantages	Lowest 20%	Lower 20%	Middle 20%	Next 20%	Top 20%

(VI) PART VI: GENERAL FIRM INFORMATION

- Year of founding of the firm
- Year of privatization of the firm   (check if not applicable)
- Is your firm a spin-off of a larger organization yes / no ?



4. Current ownership (check all that apply; provide percentage if available):

Management | Employees | Indiv. Investor/s | Finan. Institution/s | Domestic Firm/s | Foreign Firm/s | Government

5. Name of your primary industry: \_\_\_\_\_ NACE code: \_\_\_\_\_

6. Average yearly growth of industry (1999-2001): \_\_\_\_\_ %

7. Degree of diversification of your firm

- Conglomerate diversified in unrelated businesses
- Firm diversified into related businesses
- Firm focused on one main business
- Firm vertically integrated

8. How many firms have you acquired over the last 10 years? \_\_\_\_\_

9. A strategic alliance is a long term technology, production, or marketing agreement with close cooperation but equity stake; ordinary distribution arrangements or arm's-length licensing agreements are not strategic alliances unless they include other cooperation. no

Do you have any strategic alliances with other companies? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, among those alliances, how many are marketing alliances? \_\_\_\_\_

Among those alliances, how many are R&D alliances? \_\_\_\_\_

Among those alliances, how many are alliances with foreign firms? \_\_\_\_\_

### 1) PART VII: RESPONDENT PROFILE

1. What is your age? Below 30 O 30-39 O 40-44 O 45-49 O 50-54 O 55-59 O 60 or higher O

2. What is the highest level of education you have?

Completed secondary school O Vocational/professional training O  
Bachelor degree O Master degree O Ph.D. O

3. Gender: Male O Female O

4. What is your current position/title: \_\_\_\_\_

5. How long have you been working in this position (in years)? \_\_\_\_\_

6. How long have you been working in this firm (in years)? \_\_\_\_\_

7. If you are interested in the Executive Summary of the study results, please tick here.

**(vii) Thank you so much for your time and kind support!**

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