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Corporate Governance in Transition Economies
Part 2: The Case of Hungary

Edited by Ichiro Iwasaki

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Preface

As a result of substantial efforts by the governments and citizens in the former socialist countries, the shift to a market economy is now entering its second phase. If the first phase of the transition was to constitute the social and economic institutions that are vital for establishing a 'minimum' system of market economy, then the present aim should be to enhance these hastily introduced institutions for further development of capitalism.

This is also the case with the corporate system. There is no country in the former Soviet Union or Central and Eastern Europe that does not have secured legal freedom of private ownership, labor contracts, profit distribution and business competition. Despite being in the early stages of developing a market economy, most of these countries have laid the groundwork for their banking system, securities markets, accounting systems and bankruptcy procedures. Thus, in a number of countries where the formal institutional framework has been established and private businesses have begun to lead production activities, the focus of policy debate has shifted from 'traditional' measures for the economic transformation such as privatization of state-owned enterprises to how to shape the existing business firms including their organizational architecture and the governance mechanism.

From this point of view, we are now conducting investigation into corporate governance issues in the former Soviet Union and Central and Eastern Europe together with foreign scholars in the framework of a joint research project supported by the Institute of Economic Research of Hitotsubashi University and the Ministry of Education and Science of Japan. This book represents one of outcomes from the project and touches upon the mechanism of corporate governance in Hungary. I wish it could expand knowledge of readers in the field of corporate governance in transition economies and make a contribution to the development of so-called 'Economics of Transition' as whole.

Ichiro Iwasaki
January 2005

Contents

Abstracts

Chapter 1
Corporate Governance in Hungary: An Overview
Éva Ozsvald

This chapter provides an overview of the Hungarian corporate governance system, the features of the Budapest Stock Exchange and the ownership structure of listed companies. The corporate governance system is largely based on the continental type European model and related regulations follow the directives of the European Union. While laws and regulations match those in the developed market economies of Europe, the implementation and the enforcement of laws lag behind. The corporate governance system is in close connection with the external financing of companies which is considered to be still a weak point of the Hungarian economy.

JEL Classification Numbers: G 32, G34, K 22

Chapter 2
Foreign Direct Investment and Corporate Restructuring in Hungary
Ichiro Iwasaki

Large-scale foreign direct investment and intensive business activities by multinational companies have played a crucial role in Hungary's transition to a market economy. The massive inflow of foreign capital has supported the macro-economy by spurring effective demand, contributing substantially to its long-lasting and stable economic growth, as well as to drastic changes in the corporate sector through the conversion of ownership structure, improvements in production system, strengthening market competitiveness, modernization of management systems, and revitalization of R&D and innovation activities. In spite of all this, Hungary still has many problems with corporate restructuring. The Hungarian government and the business sector are now at a turning point in their passive strategy of economic transformation.

JEL Classification Numbers: F21, F23, O33, P21

Chapter 3
The Characteristics of Corporate Capital Structure Decisions during the Transition Period in Hungary

Iván Bélyácz

This chapter analyzes the characteristics of corporate capital structure decisions through the example of the Hungarian transition period. The first part introduces the theoretical background for capital structure decisions, highlighting the trade-off theory, the pecking order theory and the agency theory. The second part of the study concentrates on the capital structure decisions in emerging market economies during the transition period. The last part covers the specific features for capital structure decisions based on Hungarian experiences during the period between 1992 and 2001, using the examples of manufacturing industry. The author's main conclusion is that the assets versus liabilities maturity matching principle is violated by the prevailing permanent component of short term liabilities applied in the long run, affecting masses of companies, which can have disadvantageous impact on the corporate liquidity and growth potential.

JEL Classification Numbers: G30, P31

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Chapter 1

Corporate Governance in Hungary

- An Overview -

Éva Ozsvald

1.1 Introduction

The lesson from the 1997 Asian financial crisis and a number of high profile corporate scandals on the both sides of the Atlantic in 2001-2002 has been well learnt: strong corporate governance (CG) standards – the main elements of which are improved disclosure, strengthened shareholders rights and more independent supervisory boards - must be built up if a company wants to become attractive for outside investors. According to a survey conducted by McKinsey and Company (Global Investor Opinion Survey, 2002)[1], good corporate governance has become a key investment criterion, on a par with the financial characteristics of the given firm. Doubts about the quality of CG can easily drive investors to avoid companies or even countries. It is also not by chance that analysis which rate companies and countries according to the level of their standards of CG have appeared recently. The very existence of the rating is a proof of the increased importance of factors that constitute CG. In a sense the assessment of CG risk can be used as a proxy for the description of general business environment. In addition, international institutions such as the IMF, World Bank, OECD, all show interest in establishing and promoting best practices of CG.

[1] The survey was based on the responses of 200 institutional investors from all over the world representing about $ 2 trillion assets under management.

Hungary and Hungarian companies are affected as well. Hungary is small, middle-income economy with a remarkable degree of integration into the world economy. The country's savings, however, are not sufficient for a catching-up growth, thus, it must fiercely compete for foreign direct investment. Under these conditions it is obvious that she cannot risk the divergence with international trends. She has no choice but follow international standards in all important fields - including up-dated CG practices. Being a member of the European Union since 1 May 2004 she has to adjust to the European benchmark in the first place. Thus, new CG legal regulations and codes of conduct have been imported from the European Union extensively.

Both a successfully completed transition from plan to market and the accession to the EU would have been impossible without creating a proper legal environment. Hungary's accomplishments in this field are unanimously acknowledged. There is, however, a gap between laws on the books (law extensiveness) on the one hand, and law enforcement (law effectiveness) and the real working of the economy on the other. This is a general phenomenon in emerging market economies (as discussed by Berglöf & Claessens, 2004) and should be kept in mind when the issues of CG are analysed.[2] Based on the analysis of several dozens countries world-wide, LLSV (1999) drew the conclusion that unlike legal rules themselves, which do not appear to depend on the level of economic development, the quality of enforcement is sharply higher in richer countries. There is also a positive correlation between the level of development and the strength and quality of financial intermediation.

To keep our analysis focused we chose the following issues directly related to CG to be examined in this paper: legal arrangements and formal CG structures; the weight of and the way stock market functions in Hungary; the ownership structure of listed companies and minority shareholders protection.

[2] Referring to a number of empirical research, authors arrive at a conclusion that the "enforcement of the rule of law is a, perhaps *th*e, central functional difference between developed market economies and developing economies." (Berglöf & Claessens, 2004)

1.2 Legal Arrangements - Formal CG Structures

Hungary, like most of other continental European countries, has a civil law system rather than the common law system that is used in Great Britain and the United States. Within this, Hungarian corporate law belongs to the German-type group, similarly to that in other Central Eastern European countries.

Act 144 of 1997 on Business Associations (the Company Act)[3] regulates the foundation, organization and operation of business associations with a registered office in Hungary and the rights, obligations and responsibility of the founders and members (shareholders) of business associations. Business associations with legal personality are: joint enterprises, limited liability companies ('Kft') and companies limited by shares ('Rt') or joint stock corporations with another name. The two latter, 'Kft'-s and 'Rt'-s are the most frequent forms of companies in Hungary. According to the Central Statistical Office, 176,973 limited liability companies and 3,751 companies limited by shares operated in the country in 2003. Only a company limited by shares may issue securities representing ownership in the company. These companies are either closed or public, the former being established through a private placement, while the shares of public companies are wholly or partially traded on the stock exchange.

All companies registered in Hungary are under the Court of Registration's legal supervision. The Court maintains the company register and provides public access to company information.

The CG structure of companies is based on the board system, similar to the German two-tier model with a supervisory board (dealing with the strategic direction of the company

[3] In June 1998 a new version of the law took effect, containing formal but also important modifications, such as raising minimum capital requirements and giving supervisory boards limited decision making power. The latest version came in 2003 when the Hungarian Parliament has approved substantial amendments to the Companies Act as part of the harmonization of Hungarian company law with EU requirements. Most of the changes relate to companies limited by shares.

and the monitoring of the management) and a management board (carrying out the operational management of the company).

In case of limited liabilities companies the supreme body is the member's meeting or general assembly which must be convened at least once a year. The members approve the company report and take decisions on issues such as the appropriation of after-tax profits, election and removal of the managing director, supervisory board members and the auditor, alteration of the articles of association etc. The members' meeting has quorum if at least half of the initial capital or the majority of the eligible votes are present and resolutions are passed by a simple majority of votes.

The supervisory board monitors the management of the limited liabilities companies for the members' meeting. As prescribed by law, Kft.-s must have a supervisory board only above a certain size: in cases when the initial capital of the company is above HUF 50 million and/or the number of full-time employees exceeds 200 persons. Election of an auditor is obligatory for a Kft. in the case of single-man company or if the capital exceeds HUF 50 million.

When a company limited by shares, an Rt. is founded, the initial cash contribution of each member is much higher than in the case Kft.s. Shares in Rt. can be of various types and different types embody different ownership rights. Companies may issue ordinary, preferred, employee, and interest-bearing shares. Preferred shares (which include the 'golden' share of the state) may be issued up to 50 percent of registered capital.

The Annual General Meeting (AMG) has authority over key decisions. The most important exclusive rights of the AMG are:

- Creation and modification of the statute (75% + 1 vote);
- Decision on the modification of the legal form (75% + 1 vote);
- Decision on the transformation or termination without legal successor of the company (75% + 1 vote);
- Election and removal of the members of the Management Board, the Supervisory Board and the auditors, decision on their remuneration;
- Decision on the transformation of share type;

- Acquisition of own shares, acceptance of the public offer for the company's own shares (Earle, Kucsera, & Telegdy, 2001).

The Board of Directors of an Rt. is the executive body of the company. The Board represents the company vis- a –vis third parties and before the authorities. The Board of Directors is also responsible for supervising the working organisation of the Rt. and it exercises the rights of employer. In the case of companies limited by shares it is obligatory to establish a Supervisory Board and to have an auditor.

As far as the formal CG structures that follow the rules established by law are concerned we can conclude that they closely resemble the pattern established in continental Europe. While the form is much in order, there is a number of inadequacies when the content is explored. A few empirical analyses, such as the one carried out by Adam Torok and his team (Torok, 1998) drew attention to this fact. In case of limited liabilities companies the author saw the lack of transparency and the 'façade-like' CG structures as a typical phenomenon. The explanation for this is that the majority of Hungarian Kfts-s are controlled by one or a few very strong owners. When ownership and control is not separated, the agent-principal problem is non-existent. In companies in which owners and the members of the management are identical can be run efficiently in spite of weakly functioning CG structures.

Analysing the CG structures of joint stock companies, Torok (1998) arrives at a conclusion that supervisory boards hardly have any 'teeth' at all and the Board of Directors do not depend on them in any respect. The real role of supervisory board is limited to monitoring the conformity of the company's functioning with the law and to some other purely formal tasks.

The World Bank Report (ROSC, 2003) which benchmarks Hungary's practice of CG against the OECD Principles of Corporate Governance (see Appendix) also finds the role of supervisory board fairly weak, pointing out that its main power is to refer issues to the general meeting of shareholders. In fact, the general weakness of supervisory board was the main shortcoming among just a few that the Report established when Hungary's observance of CG standards and codes were evaluated. (The second was the conflict between law and practice in the area of share registration.) It should be stressed here that the overall

assessment of the Report on the legislative and regulatory framework of CG in Hungary was positive.

Besides the Company Act the other basic law affecting listed companies is the Capital Markets Act (CMA) enacted January 1, 2002. It governs all activities, products and institutions related to capital markets (except for insurance company and pension fund regulations). The Capital Markets Act was born out of a thorough legislative reform the main aim of which was to bring Hungarian legislation in line with EU laws.

The capital markets supervisor is the Hungarian Financial Services Authority (HFSA), an independent and self-financing body. Created in April 2000, it is modelled on the FSA in the UK and it oversees every sector of the financial and securities markets (ROSC, 2003).

Finally, in 2003 the Budapest Stock Exchange has adopted detailed recommendations and rules regarding CG issues for the listed companies. A basic goal was to assure that investors receive adequate information about the corporation and its activities so that may make investment decisions and exercise shareholder rights appropriately.

1.3 The Capital Market

The countries of Central Eastern Europe are not a particular variety of economic systems called ‘transition economy’ any more: they function and have institutions like ‘normal’ market economies A few deficiencies, however remain and among these it is the relatively low degree of financial intermediation which we think is one of the their major weaknesses and which is shared by Hungary as well. Another feature is the dominance of the banking sector over capital markets, which, however, does not imply that credit markets are sufficiently developed in CEEs. In this respect, Hungary is doing relatively well compared to other CCEs with loans extended to the corporate sector being around 25% of GDP (2000) – this share, is, however, below the EU average. Capital markets are very modest in Hungary, they compare unfavourably not only with the EU bourses but even with the Polish stock market.

Chapter 1

The Budapest Stock Exchange (BSE) was first established in 1864 and it operated until 1948. Under the system of central planning it ceased to function but was re-opened in June, almost as soon as the transition to a market economy started.

In the beginning there were only 6 listed companies on the BSE. By 1999 this number reached 64 companies: this was the year with most listed companies so far (Table 1). As of August 2002 the Budapest Stock Exchange listed 50 firms – 24 as Category 'A' and 26 as Category 'B'. Of this only 'A' which has higher listing requirement is important, since it represents 93 percent of market capitalization. The three largest Hungarian companies – Matav (telecommunications), Mol (oil industry), and OTP (banking) - account for 66 percent of the market capitalization of the BSE. Cross-listing is typical: domestic firms which are large enough and have a sufficient track record to borrow on the capital market are also listed on bourses abroad. The above mentioned companies e.g. are listed on the New York Stock Exchange. The growing importance of cross-listings is the sign of: (1) capital requirements of large companies cannot be satisfied on the local market, and (2) these companies are ready to meet the high CG requirements of the renowned foreign stock exchanges.

The trend on the BSE is not promising: the number of new listings tends to decrease, while that of the delisting to increase. The stock exchange remains relatively unimportant for the economy as it is indicated by the relation of the market capitalization to the GDP. It reached its peak at 35.9 percent in 1999, then fell to 26.1 percent at the end of 2000.

This degree of market capitalization has several explanations among which the most frequently cited are feeble income levels and low level of institutional savings (those of pension funds and insurance companies). As far as the size of the firms on the BSE is concerned they are mostly large firms in Hungarian measure: the average firm had around 2000 employees between 1996 and 2000. For medium-size companies, going public is not attractive: they find the listing expensive and the rules too demanding.

In sectoral break-down most listed firms belong to manufacturing (40 percent), approximately 20 percent are in utilities, 10 percent in banking and finance, and the remainder in various other services. (Earle, Kucsera, & Telegdy, 2004)

Who are the main owners of stocks on the BSE? In 2001 foreign investors accounted for more than 70 percent of the market capitalization. The government held 8.5%, and non-

financial corporations, retail investors and the financial sector had roughly the same share, around 6 percent each. Interestingly, banks are not players on the BSE, with the exception of the year 2000 when one company had a bank as a blockholder.

However small the Budapest Stock Exchange is, it is the most frequently used starting point for the analysis of the characteristics of the Hungarian corporate governance practices. It is very difficult to get systematic information on unlisted companies, while those on the stock exchange have to provide that on a regular basis. We must note that compared to the economy as a whole, CG standards of firms present on the BSE is much higher: if only for the strict listing requirements and for the code of conducts the stock exchange prescribes, with the consequences of eventual punishment.

1.4 High Ownership Concentration

There are two basic models of ownership concentration: 'blockholder dominated corporations' and 'widely held corporation'. The majority of firms listed on the BSE clearly fit in the first category and with this characteristics Hungary is by no means an outlier: concentrated ownership (even in public companies) is a rule in most countries of the world. Widely held firms are frequent only on the bourses of US and UK.

Explained by the logic of the mainstream theory on CG, the dominance of large blockholders follows from the nature of the legal system and law enforcement mechanisms. Although Hungary was not included in the famous 'LLSV' (1999) empirical survey, it nevertheless, belongs to the continental European legal family which protects investors less than the Anglo-Saxon system, thus a strong controlling shareholder is needed to monitor effectively the management of the company.

The origins of high ownership concentration are dealt with differently in the post-socialist transition literature, where the experts attach key importance to the chosen way of privatization. This in case of Hungary in the early phase of transition was insider's buy-out and was followed by direct sales to strategic investors, with openness to foreign investors.

High ownership concentration has both advantages and costs for the firm and for the society. In a transition country when restructuring of formerly state-owned enterprises is of

crucial importance, we have every reason to believe that it is carried out faster and more efficiently when owners are few and strong than the case would be with widely dispersed ownership patterns. More generally, the merits of ownership concentration are the potentially better and less costly corporate control and the reduced possibility of diverging interests between the management and the owners of the company. The costs on the company level, on the other hand are limited risk diversification, lower liquidity and as a result, less external financing. From CG point of view, concentrated ownership undermines the independence of boards, eliminates such tools of market discipline as the threat of takeovers and the market for corporate control and increases the likelihood of minority rights expropriation.

Earle, Kucsera, & Telegdy (2001; 2004) using company data presented a detailed analysis of the ownership structure of firms listed on the BSE (Table 2). They found that the total holding of blockholders (defined as owners having at least five percent of the voting shares) fluctuated around the median of 65-76 percent between 1996-2000. There was a large interfirm variation: some firms were owned totally by blockholders (the maximum is very close to 100 percent), while in the case of others, the ownership was quite dispersed. The number of firms without blockholders, however, has declined from 11.4 percent to 6 percent of the total between 1996 and 2000, while the ratio of firms with the total blockholding over 50 percent has increased. In international comparison there is nothing particular about having one weighty blockholder, since with the exception of the Netherlands, all EU countries have a higher share of companies with over 50 percent of total blockholdings. The authors drew attention to significance multiple blockholding in the Hungarian case, when the second and third big owners have also a substantial voting power in the firm.

As a sample of large companies which includes also those outside the BSE (with reservations about the quality of data) shows, a high degree of concentration of ownership is a characteristic feature of the Hungarian economy (Table 3).

1.5 The Protection of Minority Shareholders

When the ownership of the company is dominated by large blockholders – as it is the Hungarian case described above - there are chances that the controlling owners of the

company would enjoy private benefits at the expense of small shareholders. Thus, the presence of the large blockholders in listed companies puts minority rights on a top place among CG issues.

World Bank experts when evaluating the Hungarian practice of the protection of non-controlling shareowners in the light of requirements put forward by the OECD Principles of CG - "the corporate governance framework should ensure the equitable treatment of all shareholders" - find that this condition is "largely observed". Yet, Hungary does not follow the 'one-share- one vote' principle; this is why it is recommended for policymakers to move further toward this principle by phasing out 'golden shares' [4] and veto shares and removing the possibility for issuance of preferred shares with multiple voting rights. Procedures to make voting easy for shareholders are also expected to be improved.

Transparency about the company's affairs is of utmost interest for small shareholders and institutional investors who often represent them. Therefore, a strong disclosure regime is essential for the exercise of shareholders' right. According to the OECD Principles of CG, "Capital structures and arrangements that enable certain shareholders to obtain a degree of control disproportionate to their equity ownership should be disclosed."

Hungary was somewhat late in the introduction of this rule but since July 2001 shareholders have primary responsibility for disclosing ownership details to the company and HFSA if their holding exceed certain limits. Disclosure thresholds are the five percent and multiples thereof up to 50, 75, and 90 percent. Issuers must disclose their ownership structure in flash and annual reports. The Capital Market Act requires nominees/custodians to disclose ultimate owners. Cross-holdings are prohibited and shareholders agreements must be disclosed (ROSC, 2003).

1.6 Foreign Firms in Hungary

Hungarian manufacturing, financial sector and services are dominated by subsidiaries of foreign enterprises. The penetration of foreign capital was the key to Hungary's success of

[4] 'Golden shares' were employed during the privatization of Hungarian state-owned enterprises to retain state control over major strategic decisions.

transition, modernising its economy and its outstanding performance. Table 4 shows the weight of foreign equities in selected branches, while in Table 5, the productivity indicators of foreign and domestic firms are compared.

Multinational companies (MNCs) the subsidiaries of which operate in Hungary are not present in the Budapest Stock Exchange: they are listed on bourses of US, UK, Germany etc. Their CG behaviour is thus governed by the rules that prevail on those exchanges and also, of the national laws of the countries where the head office of the given MNC is located. While foreign subsidiaries have to comply with a range of important Hungarian laws, their CG related characteristics are certainly not a 'Hungarian business'.

If, however, CG is considered in its wider context, when cultural and value aspects of the given business environment are also taken into account, the demonstration effect that foreign firms present can be beneficial for the evolution of the behavioural norms of Hungarian companies.

1.7 Concluding Remarks

The Hungarian economy is dominated by foreign companies and domestic companies with strong owners who are either large blockholders or, in the case of medium size companies, the owner and the manager are often the same person. The main characteristics of the Hungarian CG are summarized in Table 5. The other typical feature of the Hungarian economy is the low level of external financing. Besides ownership concentration it is the underdevelopment of financial intermediation that explains why many aspects of CG remain just formality. Thus, an improved CG in Hungary is still work in progress. The direction is determined by the EU membership[5] and the country's openness towards foreign capital. As the economy will grow, so will the importance of external finance with a positive feedback on CG. Once the reform of the social security system will be completed, the role of private pension funds and insurance companies on the capital markets will grow. (The process has

[5] To cite but one example: EU regulations prescribe that publicly traded companies, governed by Hungarian laws must prepare their consolidated accounts in conformity with international accounting standards starting from January 1, 2005.

already started as it is demonstrated in Table 6.) The demand of stronger institutional investors will certainly contribute to better and more effective corporate governance in Hungary.

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Appendix

I. The OECD Principles of Corporate Governance

The OECD Principles of Corporate Governance were agreed in 1999 and are intended to assist member and non-member governments in their efforts to evaluate and improve the legal, institutional and regulatory framework for corporate governance in their countries, and to provide guidance and suggestions for stock exchanges, investors, corporations and other parties that have a role in the process of developing good corporate governance.

The Principles deal with five topics:

I. The Rights of Shareholders;

II. The Equitable Treatment of Shareholders;

III. The Role of Stakeholders in Corporate Governance;

IV. Disclosure and Transparency;

V. The Responsibility of the Board.

II. Summary of Observance of OECD Corporate Governance Principles in Hungary

	Principle	O	LO	PO	MO	NO	Comment
	I. THE RIGHTS OF SHAREHOLDERS						
IA	Basic shareholder rights			X			• Inconsistency between law and practice of updating registry from KELER. Some voting disallowed as a result.
IB	Rights to participate in fundamental decisions.	X					• Some authority for capital increases can be delegated to board.
IC	Shareholders AGM rights			X			• Some reports of companies setting meetings that are difficult to attend.
ID	Disproportionate control disclosure		X				• Shareholders required to disclose at five percent +levels; • Companies disclose ownership in annual reports.
IE	Control arrangements should be allowed to function.		X				• Strong takeover rules with squeeze-out provisions.
IF	Cost/benefit to voting				X		• Institutional investors tend to use exit over voice.
	II. EQUITABLE TREATMENT OF SHAREHOLDERS						
IIA	All shareholders should be treated equally		X				• Voting caps can be employed • Multiple voting rights, Golden shares, and veto shares complicate voting rights
IIB	Prohibit insider trading	X					• Strong definitions of insiders and inside information. • AGM must approve large transactions.
IIC	Board/Mgrs. disclose interests			X			• Limited disclosure of related part transactions under Hungarian accounting regulation.
	III. ROLE OF STAKEHOLDERS IN CORPORATE GOVERNANCE						
IIIA	Stakeholder rights respected		X				• 1/3 of supervisory board seats reserved for employees
IIIB	Redress for violation of rights		X				
IIIC	Performance enhancement		X				• Employees can own shares and options.
IIID	Access to information		X				• Based on public disclosure; see section IV below.
	IV. DISCLOSURE AND TRANSPARENCY						
IVA	Disclosure standards		X				• Disclosure standards quite completed. • No disclosure of material risk factors.
IVB	Standards of accounting & audit			X			• Most listed companies use IAS. • All companies must meet new EU standard (IAS in 2005)
IVC	Independent audit annually			X			• Most listed companies use Big 4 (and ISA). • Review/oversight body being created in 2002
IVD	Fair & timely dissemination	X					
	V. RESPONSIBILITIES OF THE BOARD						
VA	Acts with due diligence, care			X			• Two-tier board (one-tier optional), but few active sup. boards. • Supervisory role poorly defined.
VB	Treat all shareholders fairly		X				• Fair treatment principle often violated in practice. • No barriers to preferential treatment.
VC	Ensure compliance w/ law		X				• Board required to comply with all legal requirements.
VD	The board should fulfill certain key functions				X		• Board and management nomination and remuneration left to "AGM", effectively to management board. • Unclear liability for non-disclosure of information.
VE	The board should be able to exercise objective judgment			X			• Two-tier board means supervisory board is non-executive.
VF	Access to information	X					• Law grants access to information and special expertise.

Note: O: Observed, PO: Partially observed, MO: Materially non-observed, NO: Non-observed.
Source: ROSC (2003).

Table 1. Development of the Hungarian Stock Market in Comparision with Other CEEs, 1995-2001

(a) Number of listed companies

	1995	1996	1997	1998	1999	2000	2001
Czech Republic	54	82	91	92	74	57	94
Hungary	42	44	47	53	64	58	57
Poland	65	83	143	198	221	225	230

(b) Market capitalization in % of GDP

	1995	1996	1997	1998	1999	2000	2001
Czech Republic	20.0	26.7	24.4	19.3	22.6	19.2	16.2
Hungary	5.8	12.2	35.2	29.4	35.9	26.1	19.8
Poland	3.7	6.2	9.1	13.0	19.9	18.9	14.9

Note: In case of Hungary and Poland stocks traded on the unregulated free market are included.
Source: Based on Koke & Schroder (2002) and World Bank (2003).

Table 2. Ownership Concentration on the Budapest Stock Exchange, 1996-2000

(% holdings)

Definition	Mean	Standard deviation	Min.	Median	Max.
Largest blockholder	39.4	19.4	0.0	42.2	87.1
Largest two blockholders	52.9	23.1	0.0	55.9	99.9
Largest three blockholders	57.7	23.7	0.0	62.9	99.4
All blockholders	60.9	24.6	0.0	67.2	99.4
Second largest blockholder	13.5	9.7	0.0	14.7	42.5
Third largest blockholder	4.8	5.1	0.0	3.9	22.7

Source: Earle, Kucsera & Telegdy (2004).

Table 3. Concentration of Ownership Structure of the 100 Largest Hungarian Companies Ranked by Sales in 1997

Number of Owners	Number of Firms	% of registered firms (N=86)	Number of firms with one majority owner	Percentage of firms with one majority owner (N=86)
One	49	57	49	57
Two	1	1.2	1	1.2
Three	0	0	0	0
Maximum 3	50	58.1	50	58.1
More than 3	36	41.9	16	18.6
Total	86	100	66	76.7

Source: Voszka (1999).

Table 4. Owners' Equity of Enterprises by Industry, 2002

(billion HUF)

Industries, branches	Owners' equity of enterprises			
	Foreign investment enterprises (FIEs)	Domestic enterprises (DEs)	Total	Share of FIEs (%)
Manufacturing	4,012.2	1,157.8	5,170.0	77.6
Food, beverages and tobacco products	536.1	213.1	749.2	71.6
Textiles	66.2	46.4	112.6	58.8
Wood and wood products	36.0	21.2	57.2	62.9
Fuel and chemical products [1]	1,065.0	323.4	1,388.4	76.7
Rubber and plastic products	133.4	52.1	185.5	71.9
Basic metals and fabricated metal products	136.3	126.2	262.5	51.9
Electrical and optical equipments	670.8	69.0	739.8	90.7
Transport equipments	789.5	24.4	813.9	97.0
Electricity, gas and water supply	460.6	752.7	1,213.3	38.0
Construction	85.3	339.7	425.0	20.1
Wholesale, retail trade and repair	860.7	885.4	1,746.1	49.3
Hotels and restaurants	113.9	136.5	250.4	45.5
Transport, storage, post and telecommunications	1,092.0	798.1	1,890.1	57.8
Real estate, renting and business activities	937.9	1,720.8	2,658.7	35.3
Total	8,663.4	7,533.8	16,197.2	53.5

Note: [1] Includes coke, refined petroleum products, nuclear fuel and man-made fibers.
Source: Hungarian Central Statistical Office (2004).

Table 5. Productivity of Foreign Investment Enterprises and Domestic Enterprises by industry, 2002

(million HUF)

Industries, branches	Sales per employee			Gross value added per employee		
	FIEs	DEs	FIEs/DEs	FIEs	DEs	FIEs/DEs
Manufacturing	2.9	0.9	3.3	5.8	3.9	1.5
Food, beverages and tobacco products	2.8	1.3	2.2	6.6	3.9	1.7
Textiles	0.7	0.3	2.4	2.1	1.4	1.5
Wood and wood products	1.7	0.6	2.9	3.7	1.8	2
Fuel and chemical products [1]	5.9	1.7	3.5	14.4	11.4	1.3
Rubber and plastic products	1.8	1	1.9	4.6	3.5	1.3
Basic metals and fabricated metal products	1.9	1	1.9	4	2.9	1.4
Electrical and optical equipments	3.6	0.9	3.8	4.4	3.8	1.2
Transport equipments	5.6	0.8	6.7	10.3	7.4	1.4
Electricity, gas and water supply	4.6	2.5	1.8	11.3	7	1.6
Construction	2.6	1.5	1.8	5.4	3.2	1.7
Wholesale, retail trade and repair	6	2.5	2.4	6	3.3	1.8
Hotels and restaurants	0.8	0.5	1.6	3.4	1.9	1.8
Transport, storage, post and telecommunications	3.6	0.9	4.1	13.2	4.5	2.9
Real estate, renting and business activities	2.6	1.1	2.5	9	4.5	2
Total	3.4	1.3	2.6	6.5	3.8	1.7

Note : [1] Includes coke, refined petroleum products, nuclear fuel and man-made fibers.

Source : Hungarian Central Statistical Office (2004).

Table 6. The Hungarian Model of Corporate Governance, 2004

The Hungarian model of corporate governance
Controlling blockholder dominated
Narrower public share ownership
Weaker shareholder rights
Weak role of stakeholders
Two-level board structure, mostly formal supervisory boards
Weaker litigation culture

Source : Illustrated by the author.

Table 7. Financial Assets Under Institutional Management, 1995-2000

(% to GDP)

	1995	1996	1997	1998	1999	2000
Hungary	4.4	6.1	7.5	8.9	10.7	12.8
Poland	1.5	2.0	2.6	3.2	4.2	5.4
Germany	45.3	50.6	58.7	66.1	76.8	79.7

Source : Koke & Schroder (2003).

Chapter 2

Foreign Direct Investment and Corporate Restructuring in Hungary

Ichiro Iwasaki

2.1 Introduction

In May 2004, Hungary joined the European Union with seven other former socialist countries in Central and Eastern Europe (CEE) and the Baltic region,[1] materializing the countries long-cherished dream of re-integrating with Europe. The fifteen-year reform efforts to tackle systemic transformation by the Hungarian government and its citizens finally paid off after their decision to break away from the socialist regime.

The road to the EU accession has not been easy since the 'European Agreements', which proclaimed that the European club would allow membership from CEE countries, were signed in December 1991.[2] However, Hungary, which had already been engaged in drastic reforms

[1] The Czech Republic, Poland, Slovakia and Slovenia in Central and Eastern Europe, and Lithuania, Estonia and Latvia in the Baltic region. The Mediterranean countries of Malta and Cyprus also acquired EU membership on this occasion.

[2] The 'European Agreements' set forth necessary matters regarding special economic relations between the EU and CEE countries, such as, political dialogue, free mobilization, economic, cultural and financial cooperation between the two, as well as the candidate nations' obligation to coordinate their domestic laws to meet designated EU standards (Tanaka, 1999, pp.8-9).

of its socio-economic systems before its application for membership in March 1994, had relatively smoothly met three criteria – politically, economically, and administratively – to be part of the EU, which was adopted at the Copenhagen summit in June 1993. As a result, Hungary was placed on the priority list of candidates for 'Agenda 2000,' which was drawn up in July 1997 to further clarify the policy of the EU enlargement, together with Poland, the Czech Republic, Estonia and Slovenia. Right after this, the Hungarian government started diplomatic negotiations with the EU committee with the aim of coordinating between 'Acquis Communautaire' – the code of EU laws and regulations – and Hungarian legislation, and settled all difficult issues in about thirty fields just before European leaders officially confirmed on December 13, 2002 that the EU would welcome new members including Hungary.[3] In this regard, Hungary had always been a 'front runner' in the process of the EU enlargement towards the east.

One of the main reasons why Hungary has been able to promote its systemic transformation is that this small country attracted relatively large amounts of foreign direct investment (FDI). The Hungarian government has been making great efforts to increase foreign investment from the very early stages of its transition to a market economy. In fact, Hungary had been a leader in the region in terms of the total accumulated FDI inflows through to 1997. Although Poland and the Czech Republic have ranked higher than Hungary since 1998 in that category, the country received 24.4 billion USD as FDI during the twelve years from 1991 to 2002, accounting for 19.2% of the total in Central Europe and 14.9% of the total in CEE region.[4] This vast influx of foreign capital strengthened the Hungarian

[3] The success of these negotiations is owed not only to the Hungarian government's diplomatic efforts but also largely to political decisions of the EU. Transitional measures included a moratorium on the adoption of EU standards had been agreed upon in a wide variety of negotiated areas. For details on 'Agenda 2000' and 'Acquis Communataire' as well as on the process of negotiations between the EU and CEE countries, see Tanaka (1999, pp. 8-12), Momozumi (2000, pp. 521-535) and Tanaka (2002, pp. 161-168).

[4] Calculated based on UNCTAD (2003, p. 252).

economy by spurring effective demand, contributing significantly to the restructuring of domestic firms through the conversion of corporate ownership structure, improvements in production system, strengthening market competitiveness, modernization of management systems, revitalization of R&D and innovation activities. In other words, FDI has been a powerful 'driving force' for Hungary to create an effective market economy, which was one of prerequisites for joining the EU. As Kárpáti (2003) states, the success of the Hungarian economy during this period was largely dependent upon foreign investment.

This paper examines corporate restructuring in Hungary during the transition period with a special attention to FDI. The next section presents an overview of the roles of FDI in the growth and stability of Hungary's macro-economy. Section 2.3 describes the effects of foreign investment and business activities of multinational corporations on reforms of corporate ownership and governance and on the improvement of efficiency in the management and production systems in the Hungarian firms. Section 2.4 examines the contributions of foreign companies to R&D and innovation activity. Concluding remarks follow.

2.2 Roles of Foreign Direct Investment in the Stabilization and Growth of the Macro-Economy

Hungary has enjoyed positive economic growth for ten straight years through 2003 after coming out of a debilitating economic slump which had continued until 1994 due to the confusion arising from the abandonment of its planned economy (Table 1 (a)). According to preliminary data issued by Hungary's Central Statistical Office (KSH), the real GDP growth rate for 2003 reached 2.9%, with the last ten year average standing at 3.5%. Since leading Hungarian think tanks foresee that the country will have from 3.3 to 3.7% growth for 2004 (Konjunktúraelemzések, 2004, 4. o.), it is almost certain that Hungary will continue its economic growth also after the EU accession. This long-lasting economic boom has steadily pushed up Hungary's national income, leading to an increase in its per capita GDP on a purchasing power parity basis to 53% of the average of 15 EU economies in 2002 (Havlik, 2002, p. 4).

Chapter 2

Investment activities have been a key factor in Hungary's long-term and stable economic growth. In contrast to its flagging household expenditures, gross domestic investment has continued to expand at a rapid pace after reaching its lowest point in 1992, and as shown in Figure 1, has grown 36.9% larger than in 1989, the last year of the socialist period. Hungary's booming economy of recent years has been driven by these intensive investment activities with their multiplying effects. In particular, foreign enterprises have contributed significantly in the form of FDI with positive crowd-in effects that have led to additional investment by domestic corporations (Mišun and Tomšík, 2002).[5]

The concentration of FDI in Hungary during the early 1990s is considered the result of political efforts to broadly open up its domestic market to foreign investors and intensely involved them in the privatization of state-owned enterprises. According to some analysts, such policies may have been taken not because the Hungarian government was prescient about the future of its national economy, but largely because of Hungary's political and economic situation at the time, such as the large amounts of foreign debt, serious current-account and budget deficits, mounting pressure from international organizations that feared the government would default on the official aid loans, and active lobbying activities by multinational corporations and by their supporting governments in order for the corporations to take part in the privatization program. Regardless of the above factors, however, it is a fact that the Hungarian government succeeded in attracting large amounts of foreign capital especially in the privatization of the state-owned enterprises by continuously offering investment incentives such as large scale corporate tax holidays and the establishment of custom-free zones in line with the basic principle of opening up the market and letting foreign

[5] Mišun and Tomšík (2002) verified FDI's spill-over effects on domestic investment in Hungary, the Czech Republic and Poland by using panel data and investment models based on the mix of the stock adjustment theory and the adaptive expectation theory regarding investment for economic growth, which revealed that Hungary from 1990 to 2000 and the Czech Republic from 1993 to 2000 both enjoyed FDI's crowd-in-effects while Poland from 1990 to 2000 had crowd-out-effects.

investors participate in privatizing state-owned businesses.[6] In fact, 66% of the total amount of FDI for Hungary between 1990 and 1999 was invested in privatizing state-owned enterprises (Antalóczy-Sass, 2002, 8. o.). The Hungarian government's generousity in selling off its largest public corporations to foreign strategic investors led to the expansion of greenfield investment as well as to its export-driven economic growth as noted by Mihályi (2001, pp. 120-128). [7]

As Oblath and Richter (2002) and Antalóczy-Sass (2002) strress, foreign companies now are increasing their additional investment in Hungary by using earnings gained from their business in the country (i.e. reinvestment earnings).[8] As a result, the gap between the amount of capital inflow from outside and that of investment by foreign companies including those in Hungary has been widening at a rapid pace.[9] The amount of this kind of reinvested earnings from 1996 to 2000 accounted for as much as 44.9% of the total amount of FDI during the same period (Antalóczy-Sass, 2002, 46. o.). This means that investment by foreign companies in Hungary is now far from diminishing and is still active enough to stimulate the economic growth by shoring up effective demand on the same large scale as that of the mid-1990s, although capital sources of investment continue to sofisticate its main form with expansion of business activities by foreign companies.

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[6] Regarding the policy measures taken by the Hungarian government to enhance investment incentives, see Antalóczy-Sass (2003a) and Iwasaki and Sato (2004).

[7] The ratio of FDI to the total amount of privatization earnings obtained by the Hungarian government had rapidly declined as follows: 1996: 32.3%, 1997: 15.1%, 1998: 0.8%, 1990: 0%. (Antalóczy-Sass, 2002, 50. o.)

[8] 'Reinvestment earnings' are: (i) earnings of Hungarian affiliates/subsidiaries of foreign corporations that are not allocated to investors as dividends; and (ii) earnings of Hungarian branch offices of foreign corporations and those of foreign non-corporate entities that are not directly remitted to investors.

[9] Until 2003, the official FDI statistics on a balance-of-payments basis did not include the data on reinvestment earnings. Figures in Table 1 (b) are those revised in 2004.

2.3 Foreign Direct Investment and Corporate Restructuring

Large-scale and continous foreign capital inflows have completely changed the supply side of the Hungarian economy, that is, the corporate sector. The number of Hungarian companies with foreign participation increased 4.5 times from 1990 to 2002, and the amount of investment by foreign capital reached 720.7 billion HUF, or 80.7% of the total amount of equity capital of all Hungarian companies during the same period (Table 1 (b)). The role of these foreign enterprises has rapidly expanded in the employment, production, investment, and trade activites (Table 2). In addition, as shown in Table 3 indicating the sectoral brakedown of FDI in 2002, foreign capital has made inroads into every area of the Hungarian economy, especially in manufacturing, wholesale and retail trade, and real estate and renting businesses. The same can be said about the financial sector. By the end of 2000, foreign capital increased to 66.6% of the total subscribed capital in the banking sector and the number of banks with a foreign participation rate of more than 50% surged to 68.1% of all Hungarian commercial banks. (Várhegyi, 2001, 583-584. o.). According to Hamar (2004, 42. o.), the share of FDI of the total subscribed capital in the financial service sector also expanded from 44% in 1996 to 89% in 2001.

In Hungary, 'foreign companies' (külföldi érdekeltségű vállalkozás) are defined as those with a foreign participation rate of more than 10%. Almost all foreign companies in the country, however, far exceed such standard, as seen in the fact that the share of 100% foreign-owned enterprises in the total number of Hungarian foreign companies increased from 1.8% in 1989 to 61.8% in 2000 while the share of joint venture companies with a domestic participation rate of over 50% sharply fell from 86.7% to 17.2% during the same period (Inzelt, 2003, p. 13). By the end of the 1990s, 76 of the top 100 of the world's largest corporations had entered the Hungarian market in some form (Antalóczy-Sass, 2003b, 20. o.). Currently, establishing a 100%-owned subsidiary is the most common way of doing business in Hungary for major multinational companies. This trend can be seen also for Japanese companies operating in Hungary. As of March 2003, 61 or 70.1% of 87 Japanese-capital-affiliated enterprises in Hungary were wholly owned subsidiaries of Japanese parent companies or those of Japanese companies' affiliates in Europe (Table 4). This trend has been

gaining momentum against the background of an increasing number of Japanese companies coming to the country as suppliers for European affiliates of Japanese electronic and auto manufacturers. Hungarian affiliates of these Japanese corporations such as Panasonic, SONY and SUZUKI, as well as those of other multinational enterprises such as Audi, Philips, IBM, Nokia, GE and Opel, have now become the leading companies in Hungary. This is why Hungary is known as a country, along with Ireland and Malaysia, whose industry is overwhelmingly dominated by foreign capital (Hunya, 2002, p. 11).

As already mentioned in the previous section, the priority of selling off state-owned enterprises to strategic investors, as well as greenfield investment activities by multinational corporations, has led to the emergence of strong corporate ownership of Hungary's core businesses. Direct corporate control by these new types of owners has been effective in alleviating so-called 'agency problems' and has prevented Hungary from being troubled by serious corporate governance woes – especially, those arising from heavy insider-control ownership – which have confronted other post-communist countries. In this context, it is remarkable that Török (1998, p. 172) presented the view that in Hungarian companies, management and supervisory organs including the Board of Directors, do not have a substantial influence on corporate strategies except for daily management issues.

Foreign companies thus formed a 'mega economic sector' in Hungary (Nishimura, 2000, p. 336) and brought about significant changes in the corporate ownership and governance structure of Hungarian firms. The increased number of foreign-owned companies has had a remarkable influence on Hungary's industrial and trading structures, especially in its manufacturing sector, and greatly contributed to the improvement of its productivity.

The penetration of foreign capital has resulted in drastic changes to Hungary's industrial structure. From 1995 to 2002, the share of the manufacturing sector in the total industrial production increased by 8.0% to 90.4% (Table 5). During the same period, production in the machine industries, in which about half of Hungary's total FDI has been concentrated, jumped phenomenally to 29.0% of the total industrial production, while the share of traditional industrial sectors in the socialist era including food, wood and papar, and light industries combined declined by as much as 10.6%. The market environment also greatly changed during this time. For example, according to estimates by Éltető (2001, pp. 6-10), the

market share of 100% domestically-owned enterprises was completely surpassed by that of foreign-affiliated companies during the seven years from 1993 to 1999. The share of foreign enterprises in the manufacturing sector and in the export market increased to 71.8% and to 88.6% respectively in 1999. Based on a review of financial data of Hungarian manufacturing companies from 1996 to 2000, Hamar points out that there was a significant positve relation between these companies' foreign participation rates and their degrees of export orientation, which is consistent with the findings of Éltető (2001).[10]

Under these circumstamces, the total trade volume of Hungary surged 10.8 times from 1992 to 2002, while that with EU members rose at a more rapid pace, marking a 15.3 times increase over the same period.[11] Such dominance of foreign enterprises over the export activities is closely related to the fact that the affiliates of multinational corporations in Hungary have continued to actively supply their products to EU markets in line with their global marketing strategies.

Many previoius studies indicate that foreign firms greatly contributed to the improvement of productivity of the Hungarian corporate sector. For example, Hunya (2002, p. 12) estimates that labor productivity of foreign companies was as much as 3.1 times higher than that of domestic firms in 1999, the largest difference noticed among ten Central and Eastern European countries.[12] The statistical office also recognized that a significant labor productivity gap does exist between the two groups (KSH, 2003d). They estimate that the average added-value per employee of foreign firms was 1.8 times higher than domestic corporations, adding that much larger gaps were observed in several industrial categories (Table 6). Moreover, Hamar (2004, 43-44. o.) estimates that the difference between foreign corporations and domestic firms in productivity, added-value, wage level and capital equipment ratio per employee reached 2.9 times, 4.0 times, 1.6 times and 3.2 times respectively in 2000.

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[10] The 'degree of export orientation' is defined as the share of exports in total net sales.

[11] Calculated based on *Magyar Statistikai Évkönyv 2002* (2003, 331. o.).

[12] Judging the context, the estimation was conducted only for manufacturing firms.

There also have been many quantitative analyses on this topic. By estimating Cobb-Douglas production functions based on cross-section data of 1994-1997, Szekeres (2001) show that total factor productivity (TFP) tended to improve in proportion to the growth of the foreign participation rate. Using a large-scale database covering about 90% of all Hungarian manufacturing and construction firms, Sgard (2001) confirmed that TFP showed a significant increase of 38.5% on average when the foreign ownership rate was expanded from 0% to 100%. Novák (2002) also found that Hungarian corporations with a foreign ownership rate of over 50% probably succeeded in the improvement of their productivity at a faster pace than other enterprises, based on regression analysis on the productivity of foreign-owned corporations by estimating three quantitative models including a simultaneous equation model designed to treat the endogeneity of the investment decision-making process of foreign firms.

The above research suggest that there is a close relation between the fact-finding of Oblath and Richter (2002, p. 17) in which the productivity of the Hungarian manufacturing sector rose at an average annual rate of 15.4% from 1993 to 2000 – a much faster pace than any other CEE countries – and large inflows of foreign capital into Hungary during this period. However, categorizing Hungarian firms into only two groups, 'foreign-affiliated corporations' and 'domestically-owned corporations' is insufficient. As Halpern and Kőrösi (2000) and Novák (2003) point out, it is impossible to strictly verify the relation between the growth of foreign investment and the improvement of productivity, considering the selection bias that foreign investors may choose domestic companies for investment, because those companies have the significant potential to improve their own management efficiency and productivity in comparison with their competitors. [13] Furthermore, we have to pay attention to the possibility that the improvement of profitability and productivity of foreign corporations

[13] While Halpern and Kőrösi (2000) state, based on their estimates of Dynamic Cobb-Douglas frontier production functions using dataset from 1990 to 1997, that selection bias effects can be observed only during the initial few years of the transition period, Novák (2003), who came up with estimated production functions in fixed effect models by using 1992 – 1998 panel data on industrial firms, suggests that selection bias effects are universal. In this way, there are different views on selection bias effects over time.

in their accounts might be largely due to preferential investment incentives toward foreign investors adopted by the Hungarian government, which was not granted to domestic enterprises. A way to mitigate these problems is to compare newly established FDI-based companies and major domestic corporations. Here, we discuss Hungarian affiliates of multinational corporations. As already mentioned above, those local subsidiaries – almost all of which were established in the framework of greenfield investment – can fully utilize management know-how and production technologies devised by their parent multinational firms. Therefore, such wholly owned companies of multinationals could easily dominate privatized, formerly state-owned enterprises and other domestic corporations – both of which have been afflicted with a negative legacy from the socialist era – in terms of management efficiency and productivity. Results of empirical analysis support this presumption.

Table 7, which compares Hungary's major 167 corporations listed in *Figyelő* magazine in 2002 by using representative management and financial indexes, reveals that there is a clear difference in average performance between multinational-affiliated corporations and domestic corporations.[14] In particular, there is a large gap in statistical significance between the two groups regarding return on equity (ROE) and return on assets (ROA). This is noteworthy, as it demonstrates that affiliate companies of multinationals enjoy remarkable capital efficiency.

Next we examined the effects of the organizational form as a multinational affiliate company on TFP by regression analysis. Following Szekeres (2001), we estimated log-linear Cob-Douglas function with a constant dummy (*MNCs*), which controls the recognition of being a 100% multinational-affiliate, and checked its value and statistical significance. Two kinds of data – the first set is an unbalanced panel of 237 corporations and the second set is a balanced panel of 118 corporations, both of which are listed on *Figyelő* magazine's leading corporation rankings through to 1999 – were used for estimation. We conducted cross-section

[14] Most of the domestic corporations used in the analysis are public enterprises and privatized ex state-owned firms. The latter include many foreign companies. Therefore, the problem of superficial accounting improvements owing to favorable policies for FDI can be mostly eliminated in the analysis.

analyses for each of the 1999-2002 data and panel-data analyses using all observations. In the latter case, individual effects of samples were taken into consideration by estimating fixed and ramdom effects models.

Panel (a) in Table 8 shows results based on the unbalanced panel data, and panel (b) refers to those based on the balanced panel. These results are almost satisfactory, because signs of explanatory variables are consistent with theoretical assumptions and the hypothesis of constant returns to scale is virtually met in all cases.

The effects of MNCs on TFP are positive throughout the analytical period with statistical significance. In addition, the fixed effect model and random effects model estimations indicate that there is a 1% level of significant difference between the above two sampling groups regarding the mean of individual effects. That is to say, multinational corporations had much larger individual effects than other corporations. These findings verify the superiority of multinational corporations as production organizations compared to other Hungarian enterprises. Therefore, our empirical results – which strongly suggest that the expansion of multinational corporations contributed to the improvement of efficiency in the overall corporate sector in Hungary – supports assertions by preceding studies by Hunya (2002) and others.

In summary, the large-scale FDI inflow and massive embarkation of multinational corporations changed the corporate ownership and governance structure in Hungarian firms as well as played a crucial role in improving export competitiveness and streamlining its management and production activities. The next section will further demonstrates FDI effects by focusing on R&D and innovation activities, both of which are also important aspects of corporate restructuring.

2.4 Foreign Direct Investment and R&D / Innovation Activities

In the late 1980s, Hungary spent 2.5% of its GDP on R&D, which is a large percentage by international standards of the time (Balázs, 1994, p. 283). However, the ensuing full-fledged transition to a market economy brought about a drastic reduction in Hungary's R&D activities. By 1996, the R&D expenditure as a percentage of GDP dropped to 0.7% and the total number

of researchers fell by 53.2%. In particular, the number of corporate researchers diminished sharply by 76.6% during the same period (Table 9). Even during the high economic growth after 1997, R&D activities stagnated at low levels. In 2002, the R&D expenditure as a percentage of GDP was almost 1.0%, which is much lower than those recorded during the socialist era. This scale is much smaller than the average of developed countries, as well as that of 15 EU nations (Figure 2). Figure 3 indicates that although R&D activities in Hungary have been on the rise over the past few years, their growth rates have been very moderate. The R&D expenditure for 2002 was still below the 1990 level.

The full-scale transition to a market economy, the disappearance of the COMECON market and the drastic reduction in the government's R&D spending including those for corporate subsidies were grave 'external shocks' which led to the rapid downsizing of the national R&D sector. At the initial transition stage of economic transformation, the Hungarian government did not initiate consistent policies to stimulate R&D and innovation activities due to the lack of clear recognition regarding the linkage between economic growth and technological development – which also accelerated the stagnation of its R&D sector (Havas, 2002, pp. 16-17).

Meanwhile, as many researchers point out, Hungary's R&D system during its socialist era was far from effective, since it did not strongly motivate researchers to pursue their R&D and innovation activities.[15] In addition, the size of R&D sectors in CEE countries including

[15] For more details, see Balázs (1994, pp. 283-284), Tanaka (1993, pp. 212-215), Matsui (1996, pp. 69-70), and Inzelt (1998, p. 63). These researchers point out the following as causes of the previous ineffective R&D sector in Hungary: (a) Localized division of roles by academic research institutions, high educational insitutions and industrial research institutions. (b) Domestic enterprises' low consciousness of the benefits of R&D activities. (c) Non-availability of economic institutions and agents able to build a bridge between the R&D sector and the industrial sector.

Hungary was too large in relation to their economic scales.[16] Therefore, it is no surprise that those countries had to reorganize and downsize their R&D units to suit their national wealth along with changes in their socio-economic systems. Inzelt (1998; 2003), Szalavetz (1999), and Nikodémis (2003) emphasize the importance of the 'spontanenous adjustment processs' relative to 'external shocks' in the modanization of the industrial technology, recognizing that a substantial reduction of R&D expenditure and research staff at the corporate level had produced restructuring effects necessary for the Hungarian firms to adapt to a market economy. As already clarified in the previous section, FDI and foreign-affiliated companies played a crucial role in the revitalization of the Hungarian economy. Therefore, the preceding studies paid considerable attention to the relation between ownership forms of enterprises and their R&D/innovation activities.

According to these studies, foreign-affiliated corporations may have been more engaged in R&D activities than the wholly domestic enterprises from the early stage of transition. For instance, Inzelt (1998, p. 68) refers to the strong link between foreign ownership rates and R&D expenditure based on the enterprise survey conducted by the statistical office in 1996. Furthermore, she suggests that foreign investors have been constantly utilizing many of R&D units of Hungarian companies they bought with the aim of introducing new production licenses and know-how (op. cit., pp. 69-70). Moreover, Nikodémis (2003, 41-42. o.) points out that multinational corporations in Hungary boosted their R&D spending by five times in real terms over the six-year period from 1995 to 2000. As a result, the share of multinational companies in the total R&D spending in the corporate sector increased from 22% to almost 80% during the period. As indicated in Figure 4, the proportion of R&D spending by multinationals in the Hungarian corporate sector is extremely high by international standards. Nikodémis states that this is further highlighted by the fact that domestically-owned corporations, especially small and medium size enterprises, were substantially cutting or restraining R&D expenditures in that period.

[16] According to Knell (2000, pp. 201-202), as of 1990, scales of R&D activities in CEE countries and in Russia were comparable to those of Western developed nations, such as Germany and France.

The same trend can be seen for innovation activities. The latest survey by the statistical office (KSH, 2003b) covering 26,495 manufacturing companies reveals that there is a certain gap between domestic and foreign companies in terms of achievements in innovation activities. Table 10 shows that 3,441 or 15.1% of 22,186 wholly domestically-owned corporations surveyed conducted innovation activities during 1999 to 2001, while 1,055 or 28.7% of 3,679 foreign-affiliated enterprises carried out such activities during the same period, which is about 1.9 times larger than that of the former on a percentage basis. Meanwhile, the statistical office obtained similar results to the above based on another enterprise survey for 1997 to 1999 (KSH, 2001). Hence foreign-affiliated enterprises may have been continuously more active in innovation activities than domestic corporations.

Szalavetz (1999, 37.o.), who conducted an in-depth interview survey of fifteen manufacturing companies under the control of German capital, advocates that "the technological benefits of being owned by multinational corporations can be summarized by the fact that domestic firms were able to accelerate their technology accumulation process with the help of foreign direct investment", adding that the "Hungarian economy has been modernized at a remarkable scale as a result of technology transfer through foreign investment".

In addition to this paper, there are many other studies focusing on the achievements of technology transfer and spillover effects stemming from R&D and innovation activities by foreign corporations. For example, Antalóczy-Sass (2000; 2003b) found the effects of technology transfer in qualitative changes in Hungary's export structure from the late 1990s. As indicated in Table 11, Hungary's top 10 export goods for 2002, five of which were high-tech products, are products of foreign-affiliated enterprises that carried out greenfield investments within custom-free zones. The total export volume of high-tech products increased by as much as 5.3 times on a US dollar basis from 1992 to 2002 (Table 12). The total imports of high-tech products also expanded by 7.6 times during the same period partly due to foreign corporations' rising demand for plant and equipment investment. Based on statistical data, Hamar (2004) examined the role of foreign capital from the viewpoint of Hungary's technological catching-up and confirmed that industrial sectors requiring higher

technologies have larger foreign participation rates (Table 13). These findings indicate the benefits of technology transfers brought about by FDI.

Szanyi (2002) focused on technological spillover effects arising from outsourcing contracts and from supplier agreements between multinationals and domestic companies, which has been rapidly spreading among Hungarian industrial firms in recent years. He found that small and medium size firms are actively involved in businesses outsourced from multinational enterprises, and aim to adapt to a market economy as well as undergo restructuring. That is, these domestic enterprises regard outsourcing contracts with multinationals as "the most important sources of technologies, competitive products and markets, each of which is necessary for their modernization" (p. 20). Meanwhile, multinationals are also actively promoting their subcontractors to introduce new management techniques and carry out other organizational innovations (Havas, 2002, p. 28). In addition, these domestic corporations are devoting themselves to renewing their production facilities, developing new products, preparing to meet domestic needs, streamlining production systems, and improving designs on the basis of outsourcing contracts.

There have also been several empirical works on spillover effects brought about by foreign capital. For example, Novák (2003) confirms the existence of FDI spillover effects by detecting a significant positive correlation between TFP and the share of multinational corporations in the total sales in each industrial sector.[17] Sgard (2002) shows the high significance of these spillover effects by introducing into production functions the share of foreign capital in the total equity capital by sector.[18]

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[17] The coefficients of spillover effects had a positive sign with statistical significance regarding enterprises with 100 or more employees throughout the analytical period, while with enterprises with fewer than 100 employees, it had a negative sige with statistical significance for the first half of the 1990s and had no significance for the second half of 1990s.

[18] Sgard (2002, pp. 9-11) also reports that the northwest region between the border of the EU and Budapest is enjoying more positive spillover effects than southern and eastern regions, which might have widened the regional gap in the productivity of local enterprises.

The above two studies highlight the major role played by foreign capital and multinational corporations in the restructuring process of industrial technologies in the corporate sector. As mentioned in the previous section, drastic structural changes in the Hungarian manufacturing sector as well as the significant improvement of its export competitiveness were leveraged by the introduction of foreign capital. In addition, it is clear that foreign-affiliated corporations supported the overall industrial sector in terms of R&D and innovation activities. It is also a noticeable trend that in recent years, foreign companies in Hungary have been actively hiring Hungarian researchers and strengthening ties with domestic universities and research institutes, as pointed out by Havas (2002, p. 29)

However, the above series of positive moves does not imply that an internationally competitive R&D sector is now emerging in Hungary. Firstly, the quantitative analyses performed by Török and Petz (1999) and Knell (2000) show that R&D activities are not a strong explanatory factor for Hungary's enhanced export competitiveness and its improved productivity in the late 1990s.[19] Secondly, the number of patent applications per 100 corporate researchers, a common indicator of productivity of R&D and innovation activities, dropped by 40% from 19.5% in 1994 to 11.7% in 2002. [20] Thirdly, the already mentioned enterprise survey (KSH, 2003) indicates that 83% of manufacturing companies polled did not carry out any innovation activities from 1999 to 2001, almost the same percentages as that

[19] Török and Petz (1999, 225-227. o.) regressed the export-orientation ratio (ratio of exports to imports) to the R&D input ratio (ratio of R&D expenditures to GDP), skilled-labor ratio and foreign capital investment ratio, while Knell (2000, pp. 208-209) conducted regression analysis using the labor productivity improvement rate as a dependent variable and the R&D imput ratio and the manufacturing productivity growth rate as regressors. As a result, the former research confirmed that the coefficient of the R&D input ratio does not have economically-significant explanatory power, and the latter led to the conclusion that the R&D input ratio has no statistical significance.

[20] Calculated based on Table 9.

recorded in the previous investigations by the statistical office.[21] These findings strongly suggest that Hungary still has a long way to go before achieving rationalization and revitalization of R&D and innovation activities. FDI and multinational corporations are expected to make a further contribution to this field.

2.5 Concluding Remarks

This paper presents analysis of the roles of FDI in the corporate restructuring in Hungary from a multilateral standpoint during the process of the EU accession of Hungary after the abolition of the socialist planned economy. Foreign capital and multinational enterprises made a significant contribution to this development. However, there are several problems in relying on FDI to carry out economic transformation and to promote corporate restructuring. Firstly, there has been an increasing amount of profit repatriation by multinationals in recent years, which might further increase the current account deficit. For example, the direct investment income balance recorded a deficit of 3.34 billion Euro in 2003, which is almost the same amount as the total FDI gross inflow in that year (Table 1 (b)). Secondly, financial strains on domestic corporations and on the public arising from the preferential measures for foreign-owned enterprises have been distorting resource allocations and generating economic inequity between those who can enjoy the benefits of FDI and those who cannot. Thirdly, regional disparity in income and unemployment has been widening due to the concentration of FDI in particular regions. Fourthly, behind the rapid growth of the foreign corporate sector, technology networks and inter-industrial relations forged during the socialist era have been completely abandoned, leading to the emergence of 'technological economic dualism' (Farkas, 2000, p. 19). Resolving this problem remains a difficult policy challenge for the Hungarian government. And fifthly, the national economies dependence on foreign capital has been creating anxiety among Hungarian citizens about the future of the country, putting them in

[21] For more details, see Inzelt (1994, pp. 149-150), KSH (2001, 7. o.), and Nagaoka and Iwasaki (2003, pp. 12-14).

fear of losing their national identity as well as of a massive withdrawal of multinational corporations from Hungary, which may lead to the hollowing out of domestic industries.[22]

However, it is apparent that active investment activities by foreign corporations lowered hurdles for Hungary to transform its economic system to a market economy by overcoming capital shortage, boosted the domestic corporate sector, and greatly improved the position of Hungary in the world economy through the substantial expansion of exports (Szekeres, 2001, p. 380). Such a tremendous contribution by FDI and multinational enterprises to the Hungarian economy and industries more than offsets the problematic side effects listed above. Nevertheless, large-scale foreign capital inflow cannot corporate restructuring related problems in the country, as suggested by the analyses in the previous section referring to R&D and innovation activities. The remaining problems that have not been examined in this paper include the underdevelopment of small and medium size enterprises, the unbalanced corporate financial structure heavily dependent on retained earnings, and the insufficiency of supervision activities over managers by shareholders and by financial institutions. The following remarks were made by Szalavets (2002) regarding policies to be taken up by the CEE countries after EU accession:

"The transforming countries, in the 'long transition decade', have remarkable had success with minimal state intervention. By adapting a passive policy approach, they have allowed themselves to be driven forward by the modernizing effects of foreign direct investment. However, the challenges that follow EU accession will compel them to adopt an approach of more active state involvement. Local economic policy decision-makers will need to work out how to redefine the position of their countries in the world economy."(p. 5)

Inspired by recommendations such as the above, there is a growing opinion in Hungary calling for the modification of the current policies focusing on attracting foreign capital, in order to achieve sustainable economic growth over the medium and long term. The passive strategy for transition to a market economy, which has been driven by the Hungarian government and the business sector, is standing at a crucial turning point.

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[22] For details on points raised here, see Farkas (2000), Nishimura (2001), and Nagaoka and Iwasaki (2003).

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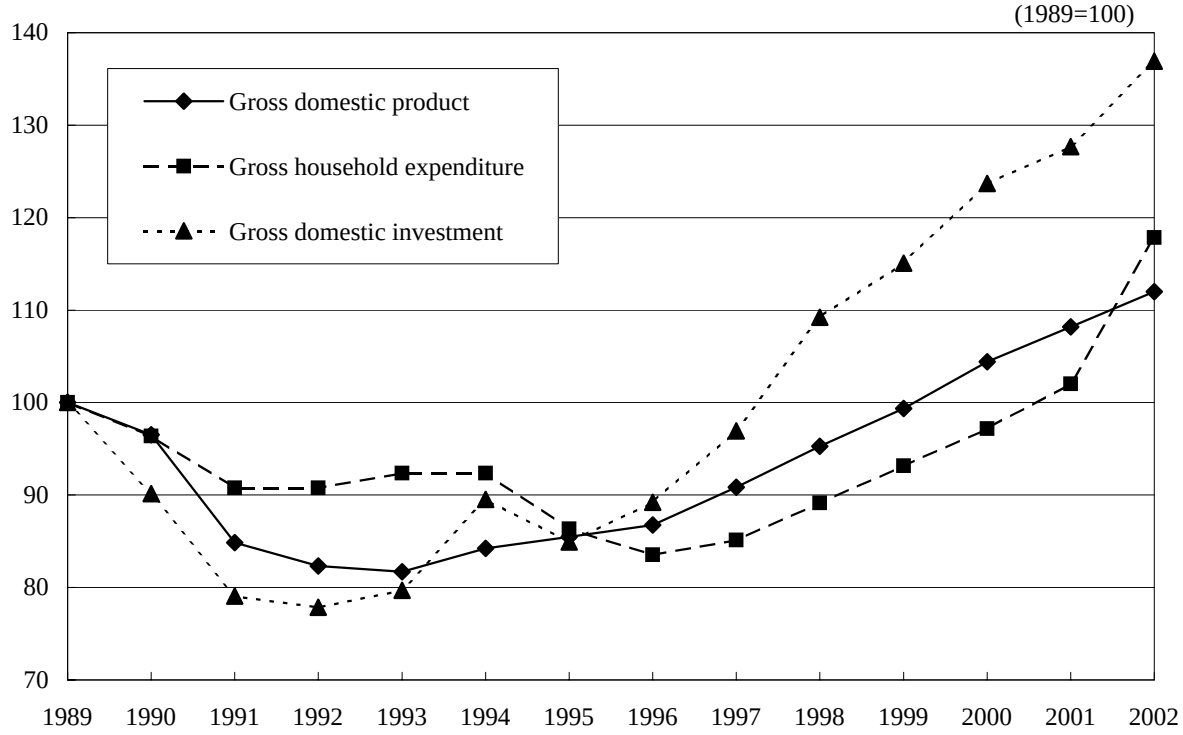
Figure 1. Evolution of GDP, Household Expenditure and Domestic Investment, 1989-2002



Source : Author's illustration based on KSH, *Magar Statistikai Évkönyv 2002* (2003, 12. o.).

(**Table 1** is shown on the next pages.)

Table 2. Position of Foreign Companies in the Corporate Sector [1]

(%)

	1994 [2]	1995 [2]	1996 [2]	1997 [2]	1998 [2]	1999 [2]	2000 [3]	2001 [3]
Employment	24	33	29	32	36	37	35	35
Net sales revenue	38	41	44	48	48	50	47	49
Added value	39	39	43	48	48	49	44	45
Investment	51	60	54	60	60	59	53	50
Exports	54	58	69	75	77	80	73	81
Imports	57	63	70	74	74	76	71	79

Notes : [1] Figures indicate share of foreign-affiliated enterprises with 10 percent or more of foreign ownership in the overall corporate sector.

[2] Calculation on a subscribed capital basis.

[3] Calculation on a equity capital basis.

Source : Based on KSH (2003a, 16, 21. o.) and Fazekas (2003, 220. o).

Table 1. Selected Indices of the Macro Economy and Foreign Direct Investment,

	1990	1991	1992	1993	1994
(a) Macroeconomic indices					
Gross domestic product[1]	▲ 3.5	▲ 11.9	▲ 3.1	▲ 0.6	2.9
Gross industrial production[1]	▲ 3.3	▲ 18.3	▲ 9.7	4.0	9.6
Gross domestic investment[1]	▲ 9.8	▲ 12.3	▲ 1.5	2.5	12.3
Consumer price index[1]	28.9	35.0	23.0	22.5	18.8
Unemployment rate (ILO method)	-	-	9.8	11.9	10.7
Trade balance (million USD)	9.4	▲ 12.0	▲ 3.7	▲ 36.2	▲ 38.5
Total exports (million USD)	95.9	101.9	107.1	89.1	107.0
Total imports (million USD)	86.5	113.8	110.8	125.3	145.5
Current account balance (million EUR)	1.1	2.2	2.4	▲ 29.6	▲ 33.0
(b) FDI indices[2]					
Annual FDI inflow (million EUR) [3]	244	1,186	1,142	2,039	966
Accumulated FDI stock (million EUR) [3]	244	1,430	2,572	4,610	5,576
Annual FDI inflow per capita (EUR) [4]	24	114	110	197	93
Accumulated FDI stock per capita (EUR) [4]	24	138	248	445	539
Direct investment income (million EUR)	▲ 19	▲ 26	▲ 34	▲ 48	▲ 98
Number of foreign capital-affiliated enterprises[5]	5,693	9,117	17,182	20,999	23,557
Total equity capital (billion HUF) [5]	274.2	475.6	713.1	1,113.2	1,398.2
Total foreign capital participation (billion HUF) [5]	93.2	215.0	401.8	662.9	833.5
Foreign capital participation rate (%) [5]	34.0	45.2	56.3	59.5	59.6

Notes : [1] Figures are year-on-year percentage changes.
[2] Annual FDI inflow, accumulated FDI stock, per capita FDI inflow, per capita accumulated FDI stock (EUR) and
[3] Figures from 1990 to 1994 exclude reinvestment earnings.
[4] Calculated by the author based on total number of population of each year.
[5] Figures from 1990 to 1994 are on a subscribed capital basis.
Source : Compiled by the author based on KSH, *Magyar Statistikai Évkönyv* (various years), KSH (2003a, 11 o.), official Statistical Office website (http://www.ksh.hu/).

1990-2003

1995	1996	1997	1998	1999	2000	2001	2002	2003
1.5	1.3	4.6	4.9	4.2	5.2	3.7	3.5	2.9
4.6	3.4	11.1	12.5	10.4	18.7	3.6	2.8	6.4
▲ 5.3	5.2	8.5	12.7	5.3	7.4	3.2	7.8	3.1
28.2	23.6	18.3	14.3	10.0	9.8	9.2	5.3	4.7
10.2	9.9	8.7	7.8	7.0	6.4	5.7	5.8	5.9
▲ 26.0	▲ 24.4	▲ 21.3	▲ 27.0	▲ 30.0	▲ 39.9	▲ 31.8	▲ 32.8	▲ 46.7
128.7	157.0	191.0	230.1	250.1	280.9	305.0	343.4	430.1
154.7	181.4	212.3	257.1	280.1	320.8	336.8	376.1	476.8
▲ 12.7	▲ 14.1	▲ 18.1	▲ 30.3	▲ 35.3	▲ 43.8	▲ 36.1	▲ 49.0	▲ 64.9
3,399	2,143	3,165	2,381	2,489	2,645	2,575	3,068	3,439
8,975	11,118	14,283	16,664	19,153	21,798	24,373	27,441	30,880
328	208	307	232	243	259	252	302	339
865	1,077	1,387	1,621	1,868	2,132	2,390	2,697	3,045
▲ 149	▲ 190	▲ 377	▲ 792	▲ 787	▲ 824	▲ 867	▲ 1,050	▲ 3,304
24,163	25,671	26,083	26,264	26,438	26,634	26,809	25,693	-
1,972.8	2,438.2	3,470.4	5,001.8	6,282.8	7,608.1	7,787.5	8,703.9	-
1,466.2	1,945.1	2,867.3	4,012.6	5,086.0	5,998.0	6,195.2	7,020.7	-
74.3	79.8	82.6	80.2	81.0	78.8	79.6	80.7	-

FDI income are net figures based on a balance-of-payments basis.

statistics available at the Magyar Nemzeti Bank website (http://www.mnb.hu/) and the Hungarian Central

Table 3. Foreign Direct Investment by Industrial Sector, 2002

Industry, branch	Enterprises		Total equity capital		FDI share in total equity capital (%)
	Number	Share (%)	Billion HUF	Share (%)	
Agriculture	861	3.4	94.6	1.1	89.6
Mining and quarrying	59	0.2	18.1	0.2	85.6
Manufacturing	3,692	14.4	3,990.7	45.8	79.9
Food, beverages and tobacco products	435	1.7	528.1	6.1	88.9
Textiles	414	1.6	66.1	0.8	91.7
Leathers	107	0.4	18.8	0.2	96.3
Wood and wood products	165	0.6	34.5	0.4	92.8
Pulp, paper, paper products and printing	378	1.5	120.3	1.4	88.5
Fuel and chemical products [1]	137	0.5	1,064.3	12.2	42.3
Rubber and plastic products	273	1.1	133.1	1.5	92.9
Other non-metallic mineral products	157	0.6	184.0	2.1	94.3
Basic metals and fabricated metal products	519	2.0	128.7	1.5	92.3
Machinery and equipments	328	1.3	227.2	2.6	87.4
Electrical and optical equipments	457	1.8	675.6	7.8	96.9
Transport equipments	108	0.4	786.6	9.0	97.0
Others	214	0.8	23.4	0.3	90.2
Electricity, gas and water supply	52	0.2	460.6	5.3	70.6
Construction	1,004	3.9	84.5	1.0	87.2
Wholesale, retail trade and repair	10,618	41.3	846.6	9.7	94.7
Hotels and restaurants	1,221	4.8	111.8	1.3	68.2
Transport, storage, post and telecommunications	766	3.0	1,086.2	12.5	63.8
Financial intermediation	220	0.9	896.8	10.3	92.3
Real estate and renting and business activities	6,356	24.7	1,043.2	12.0	83.7
Others	844	3.3	70.8	0.8	84.3
Total	25,693	100.0	8,703.9	100.0	80.7

Notes : [1] Includes coke, refined petroleum products, nuclear fuel and man-made fibers.
Source : Based on KSH, *Magyar Statistikai Évkönyv 2002* (2003, 294-295. o.)

Table 4. Types of Japanese Enterprises in Hungary by Industrial Sector, As of March 2003

(No. of enterprises)

	Manufacturing	Trade	Finance	Others [1]	Total
Subsidiaries/Affiliations	33	33	1	7	74
Wholly owned Japanese corporations	19	11	0	3	33
Joint venture enterprises	5	5	0	3	13
Others[2]	9	17	1	1	28
Liaison offices	5	5	0	3	13
Total	38	38	1	10	87

Notes : [1] Includes construction, consulting services and software development.
[2] Includes corporations in European countries.
Source : Compiled by the author based on JETRO Budapest Office (2003).

Table 5. Composition of Gross Industrial Output by Subsectors, 1995-2002 [1]

(Total gross output=100)

	1995	1996	1997	1998	1999	2000	2001	2002
Mining and quarrying	1.3	1.3	1.0	0.7	0.7	0.5	0.6	0.5
Manufacturing	82.4	82.3	84.2	86.2	87.7	89.8	90.1	90.4
Light industries [2]	33.8	32.9	29.3	27.4	26.2	24.4	23.9	23.2
Food, beverages and tobacco products	24.1	23.7	20.2	18.4	17.5	15.8	15.1	14.9
Textiles	3.4	3.3	3.0	3.0	3.1	3.0	2.9	2.7
Leathers	0.9	0.8	0.8	0.8	0.7	0.6	0.6	0.6
Wood and wood products	1.3	1.3	1.2	1.2	1.0	1.0	1.1	1.1
Pulp, paper, paper products and printing	4.1	3.8	4.1	4.0	3.9	4.0	4.2	3.9
Raw material industries [2]	33.6	32.4	31.2	29.2	25.4	24.2	23.7	23.2
Fuel products	7.4	7.2	6.4	6.6	5.2	4.4	4.1	4.0
Chemical products	11.4	10.7	10.5	8.7	7.2	6.8	6.3	6.2
Rubber and plastic products	2.8	2.8	2.9	3.0	3.0	3.0	3.3	3.5
Other non-metallic mineral products	3.3	3.3	3.1	3.2	2.9	2.7	2.7	2.7
Basic metals and fabricated metal products	8.7	8.4	8.3	7.7	7.1	7.3	7.3	6.8
Machine industries [2]	13.7	16.1	22.4	28.4	35.0	40.1	41.4	42.7
Machinery and equipments	4.8	4.5	4.1	4.0	4.0	3.7	4.0	5.1
Electrical and optical equipments	4.0	5.6	9.2	12.2	17.5	23.0	24.0	24.5
Transport equipments	4.9	6.0	9.1	12.2	13.5	13.4	13.4	13.1
Others	1.2	1.1	1.0	1.1	1.1	1.1	1.2	1.4
Electricity, gas and water supply	16.3	16.4	14.8	13.1	11.6	9.7	9.3	9.1

Notes: [1] All figures are based on 2002 prices.

[2] A category introduced by the author for special reference.

Source: Based on KSH (2003c, 266. o.).

Table 6. Labor Productivity by Industrial Sector and by Forms of Corporate Ownership

	100% domestically-owned enterprises	Foreign companies (Foreign ownership rate)		
		100%	50-99%	Less than 50 %
Overall corporate sector	56.7	90.0	119.9	92.1
Food, Beverage	42.5	126.3	98.8	70.9
Chemical	35.1	106.8	99.6	94.4
Electronics	63.1	99.0	96.8	124.3
Transport equipment	20.5	112.5	86.4	23.5
Power generation	84.3	101.1	99.9	101.2
Agriculture	47.8	115.1	81.5	75.8
Construction	49.8	900.6	50.0	86.9
Wholesale	44.2	104.2	90.3	91.6
Retail	83.3	111.6	60.5	101.8
Land transport	52.9	97.5	161.9	67.9
Post/Telecommunications	11.6	33.9	87.4	243.6
Real estate	18.9	142.6	37.4	144.2
Services	51.9	97.6	111.3	87.8

Notes : The above figures are those when the average added-value per employee of foreign-affiliated enterprises is set as 100.
Source : KSH (2003d, 29. o.).

Table 7. Performance of 167 Largest Hungarian Enterprises, FY2002

	Annual sales per employee (million HUF)	Operating profit (million HUF)	Gross pretax profit (million HUF)	ROE [1] (%)	ROA [2] (%)
All 167 enterprises	315.89	3,813.63	4,073.02	84.36	7.53
Subsidiaries of multinational enterprises	347.48	4,734.69	4,348.71	[*] 179.45	[**] 9.73
Other enterprises	297.23	3,269.76	3,910.24	28.21	6.23

Notes: [1] Return on equity = current profits / equity capital
[2] Return on assets = current profits / total assets
[3] **: Statistical significance of difference in mean values from domestic enterprises at the 5% level, *: at the 10% level.
Source : Author's estimation based on Figyelő (2003, 32-39. o.).

Table 8. Regression Analysis on Efficiency of Local Subsidiaries of Multinational Enterprises

(a) Estimation results based on unbalanced panel of 237 corporations [1]

Estimation period	1999	2000	2001	2002	1999-2002		
Estimation method	OLS	OLS	OLS	OLS	OLS	Fixed effects [2]	Random effects
Const.	7.691 ***	7.949 ***	8.320 ***	7.735 ***	7.751 ***	6.793 ***	7.532 ***
	(22.68)	(24.12)	(28.71)	(23.72)	(46.59)	(22.55)	(38.75)
ln(*K*)	0.286 ***	0.214 ***	0.200 ***	0.235 ***	0.229 ***	0.190 ***	0.189 ***
	(5.41)	(4.25)	(4.71)	(5.10)	(9.70)	(8.41)	(9.48)
ln(*L*)	0.713	0.699 *	0.735 *	0.714 **	0.763 ***	0.782 ***	0.768 ***
	(1.19)	(1.65)	(1.65)	(2.44)	(3.00)	(6.72)	(6.00)
MNCs	0.398 ***	0.336 **	0.316 ***	0.345 ***	0.342 ***	-	-
	(2.80)	(2.50)	(2.83)	(3.11)	(5.57)		
00D	-	-	-	-	0.163 *	0.197 ***	0.202 ***
					(1.93)	(8.93)	(9.18)
01D	-	-	-	-	0.269 ***	0.345 ***	0.353 ***
					(3.30)	(15.43)	(16.02)
02D	-	-	-	-	0.288 ***	0.385 ***	0.393 ***
					(3.50)	(15.87)	(16.63)
Mean of individual effects							
Multinationals	-	-	-	-	-	0.230 †	0.205 †
Other firms	-	-	-	-	-	-0.134	-0.096
R^2	0.329	0.297	0.279	0.340	0.324	0.970	0.794
Adj. R^2	0.315	0.283	0.267	0.329	0.318	0.955	0.792
F	22.920 ***	22.092 ***	23.842 ***	30.962 ***	53.664 ***	65.314 ***	517.322 ***
N	144	161	189	184	678	678	678

(Continued on the next page)

(b) Estimation results based on balanced panel of 118 corporations

Estimation period	1999	2000	2001	2002	1999-2002		
Estimation method	OLS	OLS	OLS	OLS	OLS	Fixed effects [3]	Random effects
Const.	7.360 *** (19.27)	8.004 *** (20.18)	8.109 *** (20.31)	8.018 *** (19.41)	7.636 *** (37.59)	6.664 *** (19.16)	7.506 *** (29.74)
ln(*K*)	0.318 *** (5.26)	0.234 *** (3.97)	0.212 *** (3.64)	0.218 *** (3.70)	0.244 *** (8.33)	0.255 *** (6.25)	0.257 *** (6.98)
ln(*L*)	0.722 * (1.84)	0.634 ** (1.96)	0.749 (1.47)	0.718 * (1.65)	0.705 ** (2.18)	0.654 *** (7.89)	0.626 *** (6.80)
MNCs	0.427 *** (2.76)	0.393 ** (2.45)	0.449 *** (2.86)	0.519 *** (3.28)	0.443 *** (5.67)	-	-
00D	-	-	-	-	0.228 ** (2.34)	0.210 *** (9.06)	0.215 *** (9.31)
01D	-	-	-	-	0.320 *** (3.28)	0.335 *** (14.06)	0.345 *** (14.68)
02D	-	-	-	-	0.371 *** (3.80)	0.380 *** (15.59)	0.389 *** (16.22)
Mean of individual effects							
Multinationals	-	-	-	-	-	0.451 †	0.376 †
Other firms	-	-	-	-	-	-0.190	-0.159
R^2	0.380	0.303	0.314	0.329	0.352	0.973	0.559
Adj. R^2	0.363	0.285	0.295	0.311	0.344	0.964	0.554
F	23.237 ***	16.509 ***	17.354 ***	18.637 ***	42.086 ***	103.195 ***	118.125 ***
N	118	118	118	118	472	472	472

Notes: [1] The estimation equation is formulated as follows: $\ln(Y)=\mu+\alpha_1\cdot\ln(K)+\alpha_2\cdot\ln(L)+\alpha_3\cdot MNCs\,[+\alpha_4\cdot 00D+\alpha_5\cdot 01D+\alpha_6\cdot 02D]+\varepsilon$; *Y* is total annual sales (million HUF). *K* is total equity capital (million HUF). *L* is annual average number of employees adjusted differences in average work hours per employee based on Fazekas and Koltay (2003, pp. 216-217). *MNCs* is a dummy of multinational corporations. *00D*, *01D* and *02D* are year dummies. μ and α_i are constant terms. ε is an error term. *MNCs* is excluded when estimating fixed effects models and random effects models.

[2] Hausman test for the specification of the fixed and random effects models: χ^2=18.625, p=0.002.

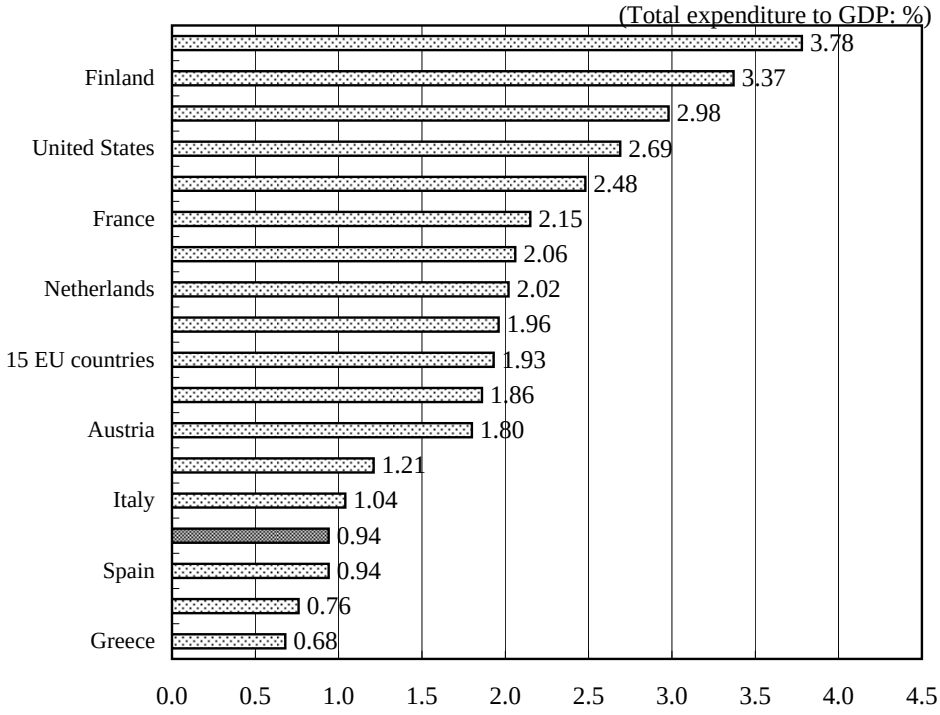
[3] Hausman test for the specification of the fixed and random effects models: χ^2=15.871, p=0.003.

[4] The *t*-statistics are given in parentheses. ***: significance at the 1% level, **: significance at the 5% level, *: significance at the 10% level.

[5] †: Statistical significance of the mean differences from domestic enterprises at the 1% level.

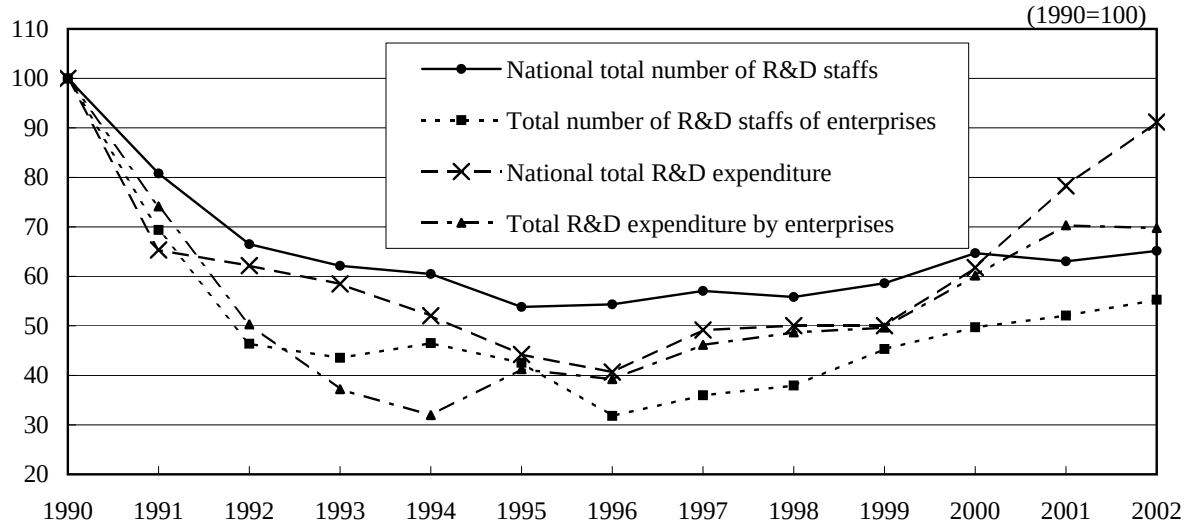
Source: Estimated by the author based on Figyelo (2001, 30-37. o.; 2002, 30-37. o.; 2003, 32-39. o.).

Figure 2. R&D Expenditure by Country



Notes : Figure for Hungary is in 2001. Figures for Greece, Ireland, Italy, Belgium, Netherlands, Denmark and Spain are in 1999. Figures for the average of 15 EU nations and other countries are in 2000.
Source : *Népszabadság* . 2003. Április 12., 5. o.

Figure 3. R&D Activities in Hungary and in its Corporate Sector, 1990-2002



Source : Author's illustration based on Table 1 and Table 9.

Table 9. Selected Indices of R&D Activities in Hungary and its

	1990	1991	1992	1993
Total staff number	36,384	29,397	24,192	22,609
in R&D institutions	14,524	11,909	10,235	9,164
in R&D units of higher education	8,843	8,458	7,917	7,776
in R&D units of enterprises	13,017	9,030	6,040	5,669
Share of enterprise R&D staffs (%)	35.8	30.7	25.0	25.1
Total number of R&D units	1,256	1,257	1,287	1,380
R&D institutions	142	133	118	124
R&D units of higher education	940	1,000	1,071	1,078
R&D units of enterprises	174	124	98	178
Share of R&D units of enterprises (%)	13.9	9.9	7.6	12.9
Total R&D expenditure (HUF/million)	33,725	27,100	31,600	35,300
From state budget	18,108	9,100	11,000	12,000
From governmental funds	10,132	…	…	…
From other domestic sources	538	…	…	…
By international organizations	346	…	…	…
By enterprises	13,075	13,085	10,921	9,891
Share of R&D expenditure by enterprises (%)	38.8	48.3	34.6	28.0
Total R&D expenditure to GDP (%)	1.6	1.6	1.1	1.0
Total number of patent applications	…	…	…	12,779
By Hungarian residents	…	…	…	…
By non-Hungarian residents	…	…	…	…
Total number of patent registrations	…	…	…	1,409
By Hungarian residents	…	…	…	…
By non-Hungarian residents	…	…	…	…

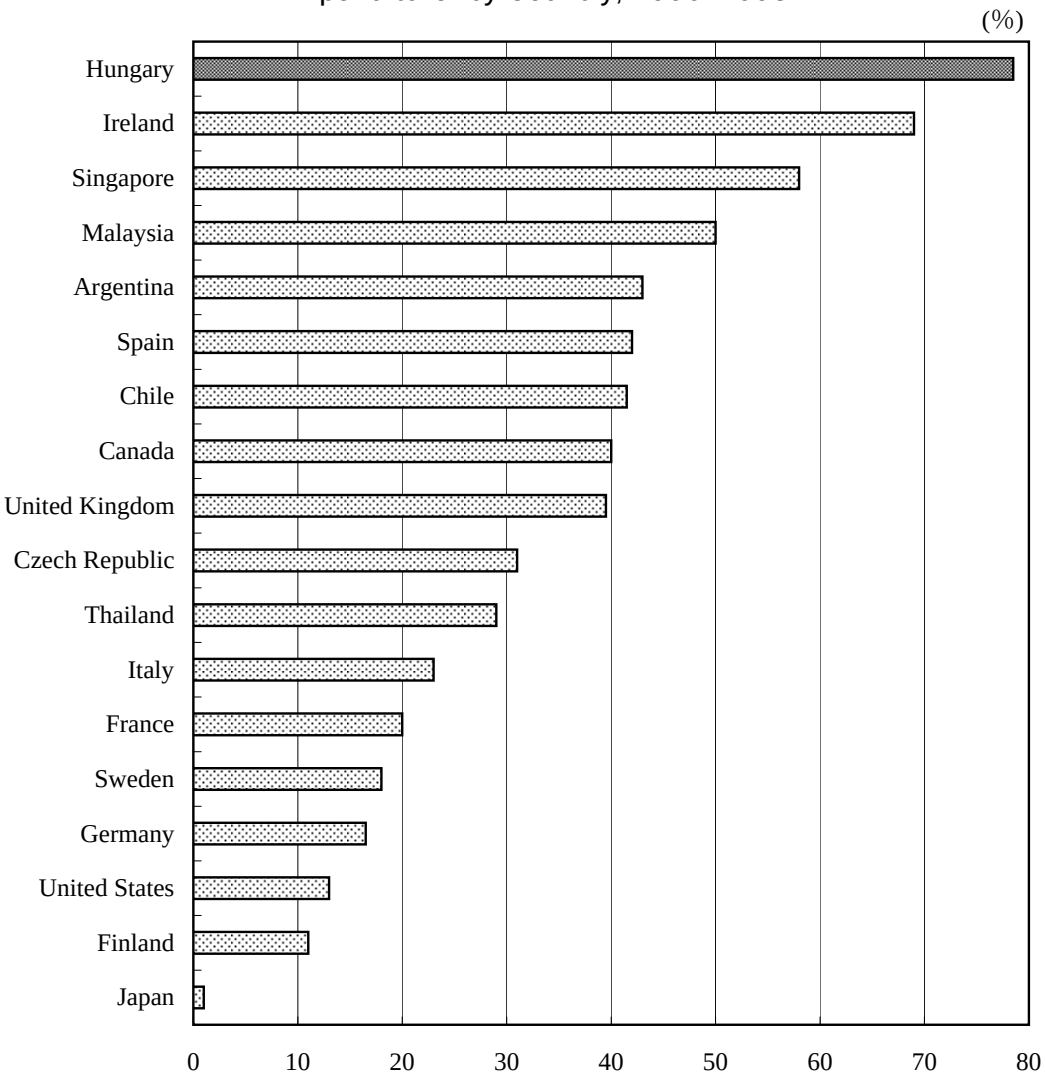
Source : Compiled by the author based on KSH, *Magyar Statistikai Évköny* and *Kutatás és Fejlesz-* (2002, p. 23).

Corporate Sector, 1990-2002

1994	1995	1996	1997	1998	1999	2000	2001	2002
22,008	19,585	19,776	20,758	20,315	21,329	23,534	22,942	23,703
8,343	7,739	9,080	8,866	7,815	7,978	8,204	7,766	7,979
7,611	6,310	6,558	7,210	7,561	7,452	8,859	8,397	8,528
6,054	5,536	4,138	4,682	4,939	5,899	6,471	6,779	7,196
27.5	28.3	20.9	22.6	24.3	27.7	27.5	29.5	30.4
1,401	1,442	1,461	1,679	1,725	1,887	2,020	2,337	2,426
112	107	121	131	132	130	121	133	143
1,106	1,109	1,120	1,302	1,335	1,363	1,421	1,574	1,613
183	226	220	246	258	394	478	630	670
13.1	15.7	15.1	14.7	15.0	20.9	23.7	27.0	27.6
40,289	42,310	46,027	63,591	71,186	78,188	105,388	140,605	171,470
14,700	19,975	20,562	31,992	35,305	37,518	48,170	75,386	100,392
…	3,302	2,996	2,862	3,625	4,106	4,037	4,591	6,455
…	1,744	3,172	2,929	2,022	2,131	2,189	3,317	2,441
…	1,997	2,076	2,655	3,375	4,363	11,202	12,918	17,773
10,096	11,563	17,221	23,153	26,859	30,070	39,790	48,984	50,864
25.1	27.3	37.4	36.4	37.7	38.5	37.8	34.8	29.7
0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.9	1.0
17,039	20,887	24,979	30,105	38,707	44,974	62,438	83,021	89,327
1,178	1,117	832	774	751	787	881	919	842
15,861	19,770	24,147	29,331	37,956	44,187	61,557	82,102	88,485
1,144	1,910	1,030	1,189	1,257	1,881	1,605	1,306	1,555
536	534	352	346	263	300	176	…	…
608	1,376	678	843	994	1,581	1,429	…	…

· *tés* (various years), information available at the WIPO website (http://www.wipo.int/ipstats/) and Havas

Figure 4. Share of Foreign Companies in Corporate R&D Expenditure by Country, 1996-1998



Source : Nikodémis (2003, 41. o.).

Table 10. Innovation Activities by Form of Corporate Ownership, 1999-2001

		Innovative enterprises						Non-innovative enterprises	Grand total
		Innovation activities completed				Unfinished or cancelled innovation activities	Total		
		Products only	Processes only	Products and processes	Total				
Actual numbers	100% domestically-owned enterprise	1,230	669	1,169	3,068	373	3,441	19,375	22,816
	Enterprise with foreign participation [1]	279	122	255	656	56	712	1,368	2,080
	100% foreign-owned enterprise	123	40	118	281	62	343	1,256	1,599
	Total	1,632	831	1,542	4,005	491	4,496	21,999	26,495
Share (%)	100% domestically-owned enterprise	5.4	2.9	5.1	13.4	1.6	15.1	84.9	100.0
	Enterprise with foreign participation [1]	13.4	5.9	12.3	31.5	2.7	34.2	65.8	100.0
	100% foreign-owned enterprise	7.7	2.5	7.4	17.6	3.9	21.5	78.5	100.0
	Total	6.2	3.1	5.8	15.1	1.9	17.0	83.0	100.0

Notes: [1] Excluding 100% foreign-owned enterprises.

Source: Compiled by the author based on KSH (2003b, 23, 29. o.).

Table 11. Top 10 Export Commodities, 2002

Rank/Commodities	Export volume (1,000 USD)	Share in total export volume (%)	Manufacturing by foreign-affiliated enterprises	Greenfield investment	Production in custom-free zones	High-tech products
1 Mobile communication devices	2,691,198	7.84	△	△	○	○
2 Piston engine-type manufacturing	2,114,963	6.16	○	○	○	×
3 Passenger vehicles	1,481,180	4.31	○	○	△	×
4 Input/Output devices	766,262	2.23	△	△	○	○
5 Parts for TV sets, radios and communication device	706,874	2.06	○	○	○	×
6 Computer memory devices	550,146	1.60	○	○	○	○
7 TV sets	533,894	1.56	○	○	○	×
8 Video recorders	529,641	1.54	○	○	○	○
9 Automatic data processing equipment/units	508,393	1.48	△	△	○	○
10 Conductors	431,424	1.26	△	○	△	×
Total for 10 commodities	10,313,975	30.04	8.0	8.5	9.0	5.0

Notes: ○ indicates 'applicable', × indicates 'not applicable' and △ indicates 'partially applicable'. For the numerical estimate of the total for 10 commodities, each ○ mark is given 1.0 point, △ mark 0.5 point and × mark 0.0 point.

Source: Antalóczy-Sass (2003b, 26. o.).

Table 12. Trade Activities of High-tech Products, 1992-2002

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total exports (million USD)	286.9	321.5	351.7	593.2	523.9	2,663.3	3,890.5	4,857.2	6,429.1	6,186.6	7,256.2
Year-on-year change (%)	-	12.06	9.37	68.68	-11.67	408.32	46.08	24.85	32.36	-3.77	17.29
Shares in total exports (%)	2.68	3.61	3.26	4.60	3.98	13.91	16.88	19.39	22.85	20.29	21.13
Total imports (million USD)	1,001.3	1,145.6	1,416.7	1,394.0	1,607.2	2,745.7	3,419.8	4,368.5	6,283.7	6,850.3	7,593.0
Year-on-year change (%)	-	14.41	23.67	-1.60	15.29	70.84	24.55	27.74	43.84	9.02	10.84
Share in total exports (%)	9.04	9.17	9.54	9.01	9.92	12.93	13.32	15.60	19.59	20.34	20.19
Trade balance (million USD)	-714.4	-824.1	-1,065.1	-800.8	-1,083.2	-82.4	470.7	488.6	145.4	-663.6	-336.7

Source: Compiled by the Author based on Antalóczy-Sass (2003b, 27, 30. o.).

Table 13. Shares of Foreign Companies in Manufacturing Sector by Technological Level, 2001

	Number of enterprises	Fixed assets	Sales	Exports	Number of employees
High-tech industries	10.4	80.5	91.5	97.5	66.5
Upper medium-tech industries	11.7	86.0	84.9	93.9	58.4
Lower medium-tech industries	10.7	74.6	71.6	73.7	42.5
Low-tech industries	8.2	58.3	57.0	71.8	36.3
Total	9.5	74.5	75.1	89.2	46.1

Notes: The following industries are included in each sector. (The numbers in parentheses are OECD industrial classification codes.) High-tech industries: aircraft and spacecraft (35.3), pharmaceuticals (24.4), office and computing machinery (30), communications equipment (32), and medical, precision and optical instruments (33.1). Upper medium-tech industries: electric machinery and apparatus (31), motor vehicles (34), chemicals (excluding pharmaceuticals) (24 excl. 24.4), railway locomotives and other transport equipment (35.2 + 35.4), general machinery and devices (29), Lower medium-tech industries: manufactured fuels (coke, refined petroleum products and nuclear fuel) (23), rubber and plastic products (25), non-metallic mineral products (26), basic metals (27), fabricated metal products (28) and ships and boats (35.1). Low-tech industries: Food, beverages and tobacco (15 + 16), textiles, apparel and leather products (17 + 18 + 19), wood products, paper products and printing (20 + 21 + 22), other manufacturing
Source: Selected by the author from Hamar (2004, 48-49. o.).

Chapter 3

The Characteristics of Corporate Capital Structure Decisions during the Transition Period in Hungary

Iván Bélyácz

3.1 Theoretical Approaches to Capital Structure Decisions

The corporate capital structure decision, in spite of its ‘derived’ nature, has been in the focus of theoretical interest for decades. Its ‘derived’ character means that corporate managers rarely make capital structure decisions to achieve explicit optimum structure. The corporate managers make decisions on production, market and financing; the latter can directly affect the current corporate capital structure. In spite of its ‘derived’ nature, the decisions over capital structure belong to the most important management functions.

According to the traditional theory of capital structure, the weighted average cost of capital changes in a form of U shaped cost curve depending on leverage. Durand (1952), the most significant representative of this theory, assumed that the weighted average cost of capital at the minimum of the cost of capital defines the optimum capital structure, because the corporate value is maximized at the minimum of the average cost. The theoretical approach by Modigliani and Miller (1958) was the first to question the existence of a single optimum capital structure. With the assumption of no taxes Modigliani-Miller theory based on arbitrage logic was in line with Irving Fisher’s (1930) separation theory. In Irving Fisher’s view in a perfect and efficient capital market the production investment decisions are independent of the owners’ intertemporal consumption-saving decisions. In effect, it means that the

corporate profit-maximizing production investment decisions are not affected by the owner's lending-borrowing decision, i.e. the production investment decision is independent of its financing decision. Since the possibility for arbitrage means that the 'law of one price' is temporarily violated, thus capital market actors can benefit from them. So, if we assumed that the corporate value of firms financed by different capital structures might vary, then this value would be offset by arbitrageurs' transactions using these opportunities. Modigliani and Miller proved with this arbitrage argument that the corporate value is influenced by its cash flow generating potential and the firm's value is independent of its financing structure. Taking taxes into consideration alters the essence of this approach; Modigliani and Miller (1963) came to the conclusion that if taxes are taken into consideration then the after-tax corporate value is increased by the net present value of tax savings. Due to the market imperfections and the fear of default, corporate managers are forced to limit their need for external financing. As the debt/total assets ratio increases, the probability of default on interest and principal payment to the creditors also increases.

The theoretical approach by Modigliani and Miller inspired concepts on capital structures; new theories have been developed for the past decades. This theoretical evolution gives way to two important implications. The first is that there is no unquestionable evidence that it is possible to define a single optimum capital structure for a firm; the second is that the foundation of corporate capital structure decisions cannot be explained by a single theoretical approach. The latter means that several, competing capital structure theories can have real relevance for the incentives concerning corporate capital structure.

The corporate financing decisions are a combination of owners' equity and external debt in a certain proportion. Therefore, it is a natural corporate endeavor to use debt finance on a regular basis. The debt is not only the supplement for owners' equity capital financing the firm, but also a resource with implications, which are advantageous for the decision makers. The interest payments on debt are deductible before tax, thus the fee for using debt capital makes tax savings possible. Therefore, the companies would increase their use of debt capital owing to the tax exemption for

the interest payment. Increasing the degree of debt capital bumps into the obstacle of earnings before interest and taxes (EBIT), which can limit further indebtedness by narrow interest coverage. The fear of financial distress or default is the protection against excessive continuation of corporate indebtedness process.

This concept is based on the trade-off theory for capital structure. According to this theory – first developed by Myers (1983) – assuming capital market equilibrium and behavior maximizing corporate value, the firms borrow funds up to a point when tax savings from further borrows are equal to the net present value of the costs of the potential financial distress. The trade-off theory for capital structure shows the choice between owners' equity and external debt as a selection between the tax savings from interest tax exemption and the costs of financial distress. The representatives of this theory considered the moderate debt/total assets ratio something to be followed. The prudent corporate behavior preferred by Myers (1984) and Rajan and Zingales (1995) expresses not only the difficulty in defining the trade-off point, but also the consideration that the debt level not exceeding 50% serves as some protection against financial distress. It is a paradox for the capital structure theories and especially for the trade-off theory that the permanently profitable companies use the opportunity for leverage effect provided by the debt capital to the least extent. Permanently profitable companies could increase their debt/equity ratio continuously because the asset coverage and the interest coverage by the EBIT would provide enough guarantees. This capital structure behavior by permanently profitable companies means that this concept cannot be explained by the trade-off theory for capital structure. So the profitable company does not go as far as the limit where the tax saving advantages exceed the potential costs of financial distress. The trade-off theory is able to express the basic theoretical stream of capital structure behavior but less able to grasp the momentums valid for the masses of firms.

In corporate financing decisions the choice between equity capital and debt finance results in an inevitable conflict of interest between owners and creditors. The agency theory by Jensen and Meckling (1976) is based on the existence and management of this potential conflict. There is a conflict of interest between the

managers and the owners; the main reason behind is the information asymmetry. The capital structure theory based on the agency theory is centered on the information gap between managers and owners. Myers (1997) thinks that the more dynamic the increase in the corporate assets is, the more probable the conflict between the owners and creditors arises. This happens simply because a company can embark upon more and more risky projects to add value to the shareholders' wealth at the expense of the creditors' interests. Similarly, Jensen (1986) states that the managers make efforts to increase the company size while shareholders are interested in increasing the corporate value.

The basic consideration for capital structure theory based on the agency theory is that financing decision makers are informed on a different scale, and developing capital structure requires costs for all the participants. If necessary funds are raised by issuing shares, then timing of initial public offerings (IPO), security market pricing, market absorption, and the IPO effects on corporate value will turn into a conflict zone. Myers and Majluf (1984) pointed out that if managers have more information compared to the market actors and want to finance corporate investments by issuing shares, then the stock price will decrease, assuming all the other factors constant. In connection with corporate decision-making it has been an experience for several decades that the managers are prone to abuse their advantageous situation from information asymmetry. In decision making positions the managers know more about the real situation of the company, its future possibilities, riskiness, and real value than the external investors or creditors do. This advantage raises the issue of moral hazard in relation to certain decisions.

The agency theory of capital structure describes the financial fund allocation conflict, which coincides with costs. The more and more indebted company is menaced with financial distress and the potential chance for default, but controlling all these processes would require substantial monitoring costs. This is the area where the trade-off theory and the agency theory are combined. The return on tax exemption from borrowing debt is more and more offset by the potential and real costs from increased indebtedness. Both the trade-off theory and the agency theory state in

unison that the increase in debt ratio has a limit, which is hard to define. The agency theory is significant in determining the reasons for costs of information asymmetry beyond the conflict between the capital structure decision participants. The possibility for conflict between actors leads to alternating directions and results in the battle with the temporary prevalence of either the equity or the debt component. Neither the trade-off theory, nor the agency theory and nor their combination provide acceptable explanation for the choice of optimum capital structure. The tendencies for conflicting structure formations define an outcome of capital structure, but the next step, in general, is adjusted not to the assumed optimum, but to the corporate financing requirements, to the owners' interests, and to the corporate growth needs.

The most practical capital structure theory is the pecking order theory, which provides guidelines to corporate capital structure decisions. Among the capital structure theories this one enjoys wide acceptance, and it covers the possibilities for choices of potential capital structure decisions to the most extent. It was Myers (1984) again who developed the essence of the pecking order theory. This theory describes the pecking order for corporate financing sources. In the theory the basic idea is that companies prefer their own internal funds to external financing sources when financing new investments. If retained earnings do not cover the financing requirements set by the investments, then cash and marketable securities are activated first; so companies postpone borrowing or issuing shares. First, the company can issue bonds, then convertible bonds, and, in the end, shares. The pecking order theory is based on the corporate consideration that if the firm has exhausted its internally generated sources and it still has advantageous investment opportunities, then the latter may be financed by external funds. One of the most significant building blocks in this theory recognizes that the effort to increase equity capital as internal source stands at the end of the pecking order chain. It can be explained by the riskiness of issuing new equity due to information asymmetry. In a financing environment where not all of the investors have access to the relevant information on a company, the intention to issue new equity may have negative signaling effect to the investors. Consequently, a company raises funds in this way because it has not got

enough internal capital, and the negative reaction by investors may result in falling stock prices.

The managers are better informed compared to the owner-investors, this idea reflects the same asymmetry we have seen at the fundamentals of the agency theory. Growth companies adjust their decision on dividend payments to the existence or non-existence of profitable investments when determining the use of realized profit. If the retained earnings with planned amount exceed the financing requirements set by advantageous investment opportunities, the companies will increase the level of their current assets or pay substantial dividends. Both the dividend payment and equity issue give signals to the actors in the capital market. The potential investors might consider the dividend payment the lack of profitable investment projects at the moment, which does not necessarily serve the purpose of adding value to the shareholders' wealth. They might come to the conclusion that the new equity issue would finance promising projects or it might show disturbances in raising funds for the company.

After covering the theoretical basics there are no doubts left about the complementary nature of the trade-off theory, the agency theory and the pecking order theory in the capital structure decisions, and about their competitiveness with one another. Further on, the specific characteristics for financing assets in transition economies will be analyzed.

3.2 The Characteristics of Capital Structure Decisions in the Economic Transition Period

In the emerging market economies the corporate capital structure decisions can be explained by the above-mentioned theories, but many authors draw our attention to several specific features concerning the emerging economies. Csermely and Vince (2000), Csermely (1996) came to the similar conclusions that in these economies companies do not face the same opportunities for financing choices as these could in highly developed economies.

From very beginning of economic transition, the heritage of asset-finance from the socialist planned economies has to be taken into account. During the decades prior to the transition period in the investment projects fixed assets were financed by funds from the state budget in large proportions, and current assets were covered by bank loans. Although, over the years the rate of internal corporate capital sources reached a higher extent, but their prevalence in total investments appeared during the decades prior to the transitions. During this period, bank loans were assigned to projects supported by the state budget, but in a period of not market economy regulations the determining role of ‘coverage principle’ remained valid. Galai and Masulis (1976), Jensen and Meckling (1976), Myers (1977) and Myers and Majluf (1984) stated unanimously that higher fixed asset ratio in the capital structure provides better guarantee for the approval of bank loans. According to these authors, companies can have better chances to access bank loans at a higher fixed asset ratio.

From the onset the economic transition was financed with capital structure significantly different from that of highly developed economies. To highlight the main differences it is worth referring to the relative shortage of financing sources, the complete lack of capital markets as possibilities for raising funds, and the heavy reliance on financing from internal funds. In the early phase of economic transition masses of corporate defaults increased the lending risk for the commercial banks. Another negative effect on the potential lending came from the extremely short saving time horizon in this period. The majority of the savings deposited in the banks lapsed within a couple of months, which explains the lack of long term financing sources. Issuing debt or equity in the capital markets was marginal not only in the early phase of transition but also later on. The internal financing sources from depreciation and retained earnings proved to be noteworthy in their importance. The internal corporate sources represented great significance in the early period despite of the low level of corporate profit after tax during the transition crisis due to several reasons. Beyond the natural productivity and market disturbances concomitant with the transition period, the fact that companies had to cover several costs explicitly tied to the developing market economy played a role in the low profitability.

The study by Booth at al. (2001) is one of the most comprehensive researches in the corporate capital structure in market economies both in transition and developing countries. The most important remark by the authors is that the ratio of long-term liabilities in the capital structure is much lower in the observed economies as opposed to that of the companies in the highly developed countries. Identifying this very important characteristic leads to further issues. The first one is that in emerging market economies the long term liabilities per total assets should be distinguished from short term plus long term liabilities per total assets ratio. The main reason for the clear distinction between the two ratios is to approach the true value of the capital structure ratio in a more refined way. We can establish an assumption that the short-term liabilities in the newly emerging countries have an undeniable permanent liability component, which is hard to define in an exact way. The second issue is related to the violation of the maturity matching principle. In the transition economies a certain portion of the permanent assets were financed with short-term liabilities due to the lack of long-term debt. The mass appearance of this aggressive financing approach is one of the most important financing experiences in the economic transition.

The relatively low debt level is an indication that masses of companies do not use the advantages of financial leverage. The lower leverage is owing to both supply and demand reasons. The decreasing saving rate, the high risk in banking, and the substantial transaction costs restrain lending activity. Beside the supply side the demand is also important. Companies refrain from borrowing because of the fear of financial distress, high costs of capital, and the fact that creditworthy companies are less in need of external financing and companies eager for external debt capital achieve lower credit scores in banking. Beyond the relative scarcity of bank loans, the access to the bond financing possibilities remained narrow. The average profitability on investment projects is exceeded by the costs incurred during an initial public offering. Issuing shares by production firms has been very rare for a decade.

The weight of internal corporate sources increased due to the relative shortage of external funds, the relative lack of highly developed capital markets, and

the increased lending risk; as a result, this component in the capital structure has been playing a permanent determining role in financing corporate assets. The dominance of retained earnings and depreciation just as well as the refrainment from equity finance has proved to provide the undoubted evidences for the implications of pecking order theory. The huge number of bankruptcies, the high risk in banking, and the fear of financial distress reinforced the assumption that the effects of several concepts from the agency theory can be traced. One of the most well known concepts in capital structure theories, i.e. the low debt capital ratio coupled with high profitability cannot be proved. The concept related to mature companies in developed economies is not valid for the corporate structures of firms in the emerging economies, because at the latter advantageous profitability is connected to good chance for growth potential, so the very profitable companies can grow by investments.

On a critical stance I have to state that the dominant weight of corporate internal funds and financing long term assets with short-term liabilities can rather be viewed as forced capital structure decisions than as the realization of possibilities from the freedom of choice. These characteristics determined the financing frameworks for economic transition and structural modernization. The foreign direct investment, loans provided by the international parent companies, internal funds, and realized profit played the main role in the mass restructuring of firms. Debt capital from banks and the capital market was less important in the structural transition. Beside the relative scarcity of sources the ability to manage information asymmetry was also lacking in the capital and money markets.

During the economic transition the parallel shrinking reach of financial intermediaries influenced the corporate capital structure decisions. The essence of this process was that commercial banks and capital markets had weaker positions in pooling savings and converting them to credit. Disintermediation reflects the more and more intense flow of funds from savers towards insurance companies and mutual funds, thus the savings level in commercial banks decreased significantly. The permanent decline in lending long-term loans had both supply and demand causes. It is not only about that the companies refrain from borrowing permanent capital but

also the supply by commercial banks was quite scarce. During the early phase of the economic transition this tendency was especially strong since the average maturity of savings hardly exceeded one year for a long time. Later the deposit time increased, but this change did not influence the weight of long term lending in the capital structure significantly.

3.3 Summary of Theoretical Implications

The theoretical approaches as the base for corporate capital structure decisions seem to be complementary to one another, rater than being competitive with one another. One reason for this is that the assumptions and conclusions of capital structure theories partially overlap one another, while the other is that the corporate practical capital structure decisions and their implications cannot be described with the help of one single theoretical approach. It also means that there is no universal capital structure theory, of which different alternatives for corporate decisions could be derived. Another important conclusion after covering the theoretical background is that theoretically an optimum capital structure valid for every company cannot be found. Every approach observed so far covers parts in the complexity of capital structure decisions, so the relevant factors related to decisions are suitable for partial explanations. If we examine the relationships between company size, operating profitability, growth, risk, assets composition and capital structure, then we can find strong positive or negative correlations, but we also find examples for loose relationships. Our main conclusion is that in economics the capital structure does not have a universal impact embodied by cost, income or profit; and in corporate decisions based on theory the sectoral and corporate characteristics have major role.

3.4 The Characteristics of Capital Structure Decisions in the Hungarian Transitional Economy

Management decisions concerning capital structure are of major importance and it is also true for the Hungarian experience during the economic transition. Corporate

capital management decisions are pivotal in determining to what extent the equity capital is complemented by short and long term liabilities. Capital markets determine greatly the degree of freedom left for management decisions, and also influence access to financing sources, managers' decision-time horizon, risk taking ability, ability to use financial leverage, and other factors.

The study of Hungarian capital structure experiences was based on data on manufacturing companies for the period between 1992 and 2001. By way of analyzing these corporate data, I try to understand to what extent corporate capital structure changed over those ten years of the economic transition, and how the established ratios are identical or different from the characteristics of capital structure theories. An additional question I raise is that which theoretical approaches comply the most with Hungarian corporate capital structure decisions. The results of the study of corporate data lead to stunning findings concerning basic issues. According to the basic definition, the capital structure is the ratio of long-term liabilities to long-term assets. The aforementioned data show that in the case of Hungarian companies during the whole period of the transition to market economy, we can rather address the characteristics of financing structure than that of capital structure. Of course, we would exaggerate by stating that capital structure problems cannot be discussed at all, yet we must declare that the weight of long-term funds in the external debt capital is negligible, and it is the weight of short-term liabilities that is crucial. The explanation for why we do not consider the long-term debt component the exclusive corporate external debt element is that, according to our assumption, short-term funds have a permanent component. This way the proportion of long-term external capital can be more significant than shown above. As derived from the available statistical data it is impossible to show the permanent element of short-term funds, but assuming its existence is well founded. This characteristic of the corporate fund structure means that if masses of corporations violate the maturity-matching principal, then the permanent assets financed with either long-term funds or short-term liabilities should be distinguished in the analysis of capital structure. We are obviously aware that financing long-term assets with short-term funds does not mean that these turn into

long-term liabilities. Mentioning a permanent component refers to an aggressive financing approach with an element in short-term funds which finance permanent assets as supplementary function. During the period 1992-2001 there were significant changes in the corporate capital structure of the manufacturing industries. In the first half of the period equity capital dominated the capital structure in most industrial sectors. Metallurgy and the steel industry proved to be exceptions, where that debt ratio was 60% from the start. Concerning the majority of industrial sectors we can state that the proportion of external capital did not exceed 40% in the early years. Later this ratio declined even further in the textile, leather and clothing industries, and never exceeded 30% (see Figures 1-10). In the second half of the period the debt ratio increased substantially in the majority of industries, reaching 50%. The structure of external capital reflects huge inner differences, because the proportion of long-term funds in it is extremely low. If we take the ratio of permanent funds to total assets into consideration, then we get values ranging between 5% and 10% throughout the period under scrutiny. As explanation we can refer to the theoretical part. Long-term lending by commercial banks was scarce during this period, and the lending risks for banks were disproportionately high. Companies could only have access to permanent funds at extremely high costs of capital, and the majority of those companies requiring external capital did not meet the strict credit rating requirements. Beside the exaggerated prudence of commercial banks, the capital market fund raising channels were not established either. On the whole - issuing, purchasing and trading of corporate bonds was rare during the period. Neither corporate nor government investments were financed with long-term bonds to a perceivable degree. As an additional remark, it is important to note that individuals considered these securities increasingly risky investments, and they refrained from buying them. Figures 11-18 depict these significant differences in capital structure ratios. The figures illustrate that the already low proportion of long-term capital declined further in certain periods in most sectors (textile, leather, clothing, chemical, construction and heavy machine industries).

Hungarian corporate experiences show that the trade-off theory of corporate

capital structure does not provide sufficient grounds to explain corporate decisions. The tax exemption of interest payments did not widely encourage companies to borrow more debt capital, because due to the low profitability many companies did not pay taxes for a long time, companies with foreign majority of ownership enjoyed tax shelters, and they received loans from their parent companies. The agency theory provides further explanations for the motivations behind corporate decisions. The high lending risks of banks, the threat of corporate bankruptcies, and the significant monitoring costs of indebted companies prove the relevance of this theory. Before mentioning further arguments, we can even now assume that the pecking-order theory is able to characterize the Hungarian corporate capital structures in the most comprehensive and authentic way. The significant proportion of internal funds, the marginal role of raising funds in capital markets, and the low proportion of long-term liabilities support this assumption.

If we scrutinize capital structure based on corporate ownership we experience noteworthy differences. Tables 1-5 show the differences between capital structures of ownership with foreign majority and those with domestic ownership. By the end of the period in the capital structure of foreign ownership there is almost twice as much long-term funds. This difference might refer to the better fund-raising opportunities within the reach of companies with foreign ownership (credits from parent companies), the advantages of higher asset coverage, better solvency, and higher willingness to take risks. The aggregate average and standard deviation values of manufacturing company data show that with time there was a tendency for the weight of long-term funds to increase. These tables also indicate that retained profits played a marginal role in the internally generated components of internal funds. The after-tax return on total assets does not exceed 1% annually on a permanent basis for the majority of companies. It means that among internal funds owners' equity and realized depreciation could have the major importance. In this respect there is no significant difference between the investing ability of companies with domestic or foreign majority of ownership. The very low return on assets draws our attention to the lack of internal accumulating ability among masses of companies. The standard

deviation around the average for this ratio refers to a continuing capital consumption in the case of many companies.

Since the short-term sources have important role in the liabilities side of the corporate balance sheets, additional remarks are necessary to the debt ratio around 50%. As discussed above, we cannot argue that the corporate capital structures in Hungary are similar to the leverage ratios in the market economies. This structure is a forced choice under the pressure of external circumstances. I have to emphasize again that among factors influencing capital structure there is not a single one, which could operate satisfactorily meeting market economy requirements. The long-term lending activity by commercial banks is extremely low, companies hardly ever issue bonds, and only a small number of firms can be profitable up to a point where internally generated funds can serve the purpose of leverage. Consequently, it means that firms with ownership of foreign majority can have access to long-term funds with good chances through long-term loans from parent companies and equity finance. In the case of several companies as short-term liabilities reach maturity; these sources are renewed from year to year behaving as permanent financing sources.

There is no ground to assume that these financing problems can only be attributed to the external capital part of the corporate balance sheet. At the beginning of economic transition the equity prevalence in raising funds was due to the securitization of earlier accumulated corporate wealth and not to the mass mobility of free capital. The only exceptions were the companies targeted by foreign direct investment. The majority of companies had difficulties in raising new equity similarly as in using debt financing. The permanently high cost of capital of short-term liabilities played a very important role in the low level of retained earnings in the corporate profits after-tax.

Further research is required to clarify to what extent industrial segment, ownership, asset structure, company size, and operating profit contribute to the capital structure development. Another further question to address is the analysis of how the short-term orientation in the liabilities sides of the corporate balance sheets affects liquidity and growth potential.

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Figure 1. 1992

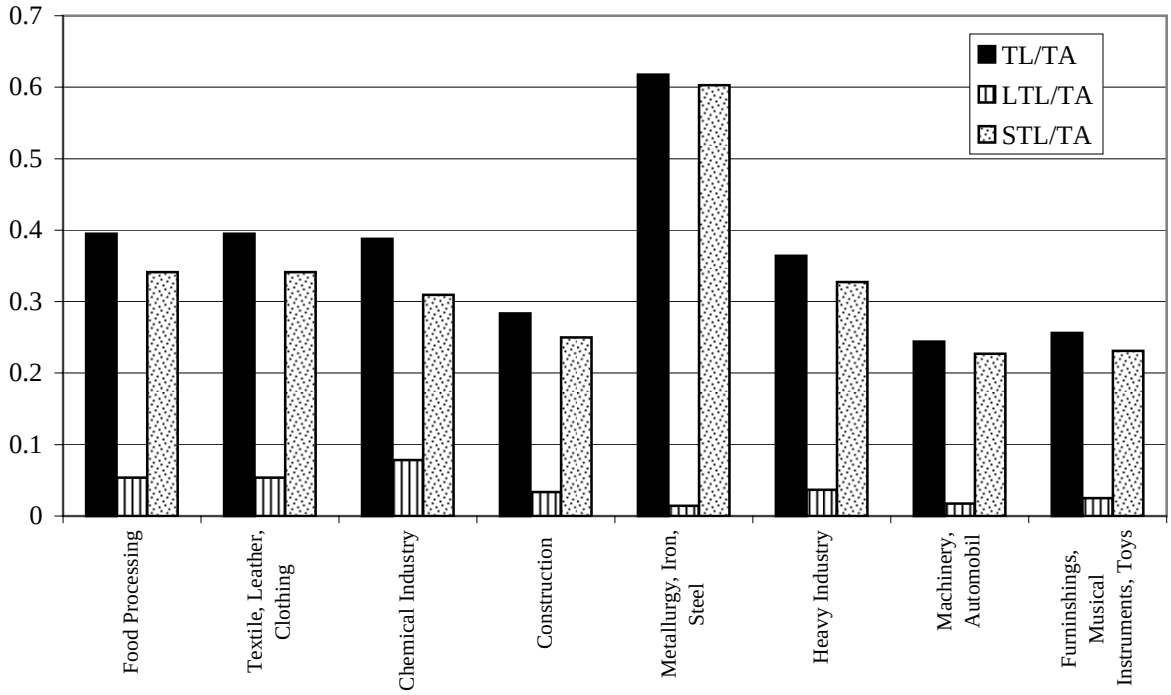
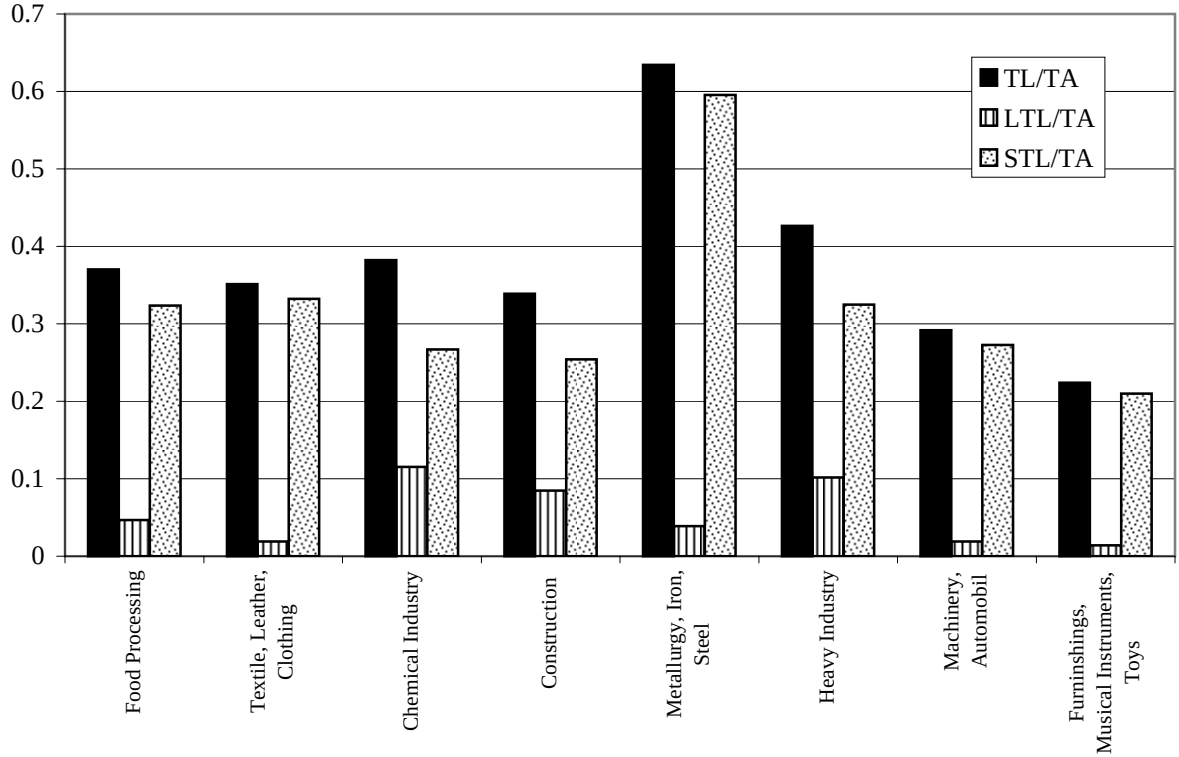


Figure 2. 1993



Source : Estimated and illustrated by the author.

Figure 3. 1994

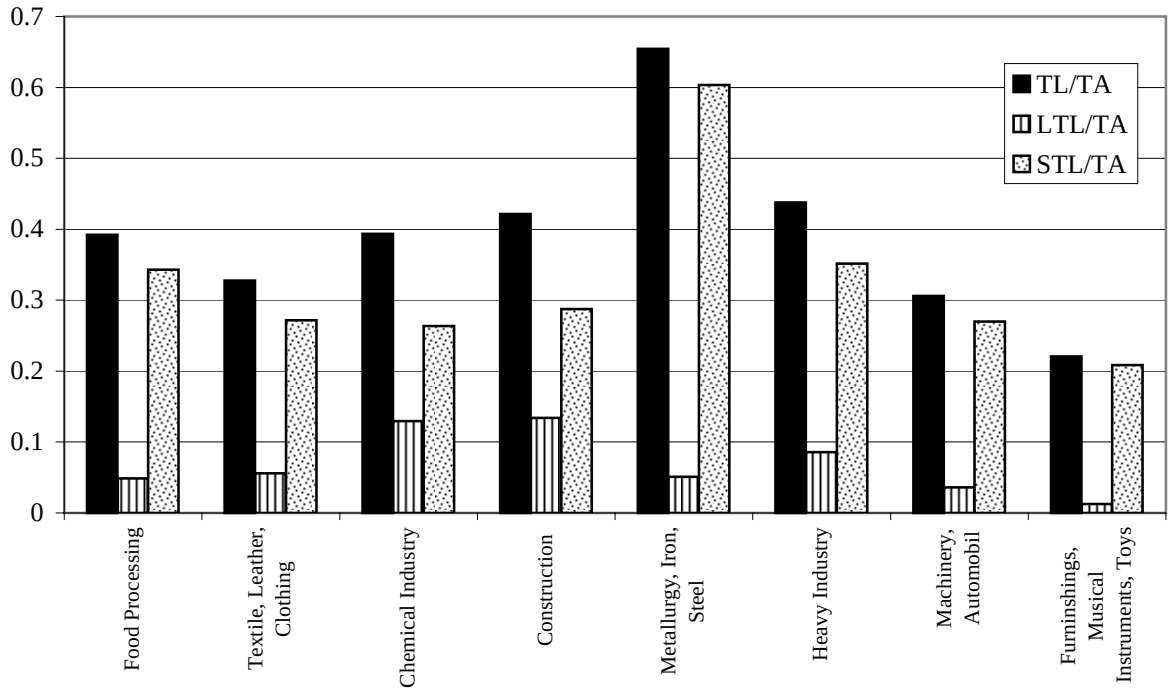


Figure 4. 1995

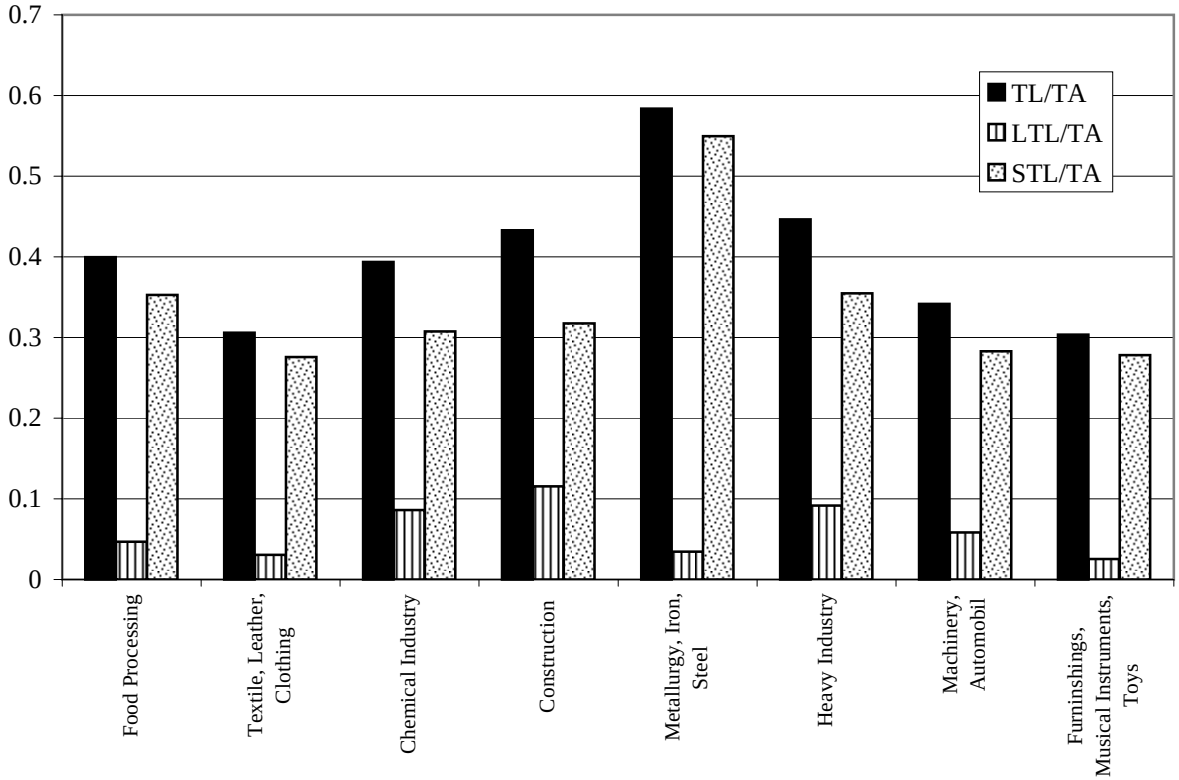


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Figure 5. 1996

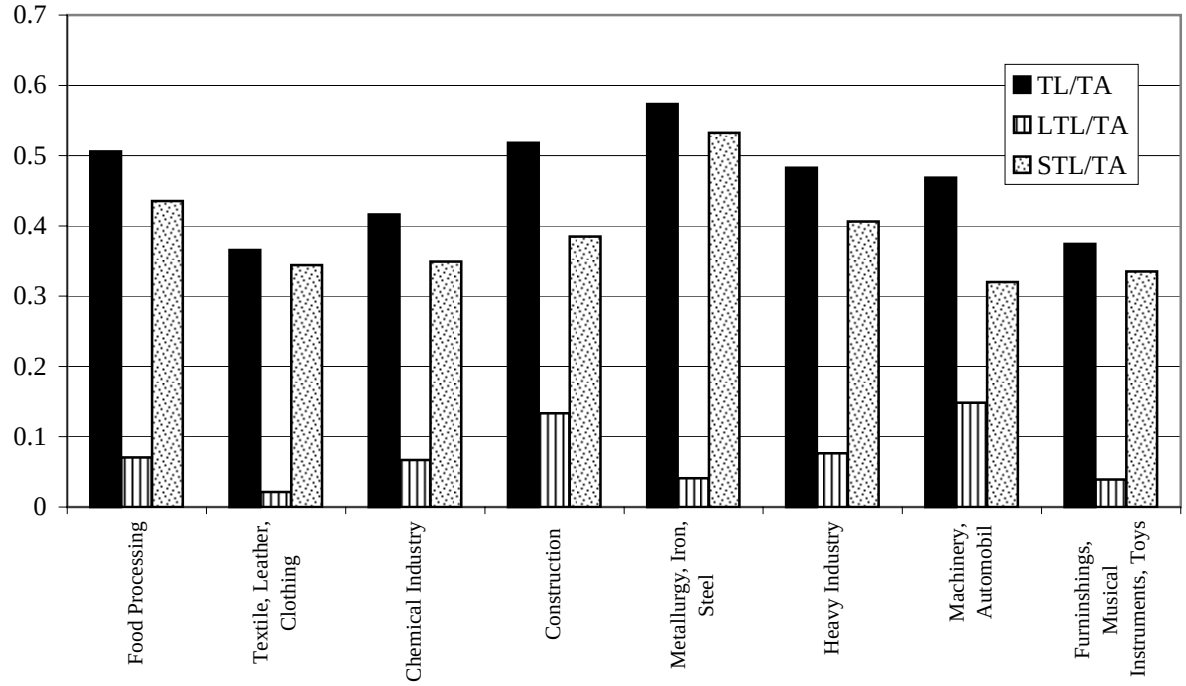
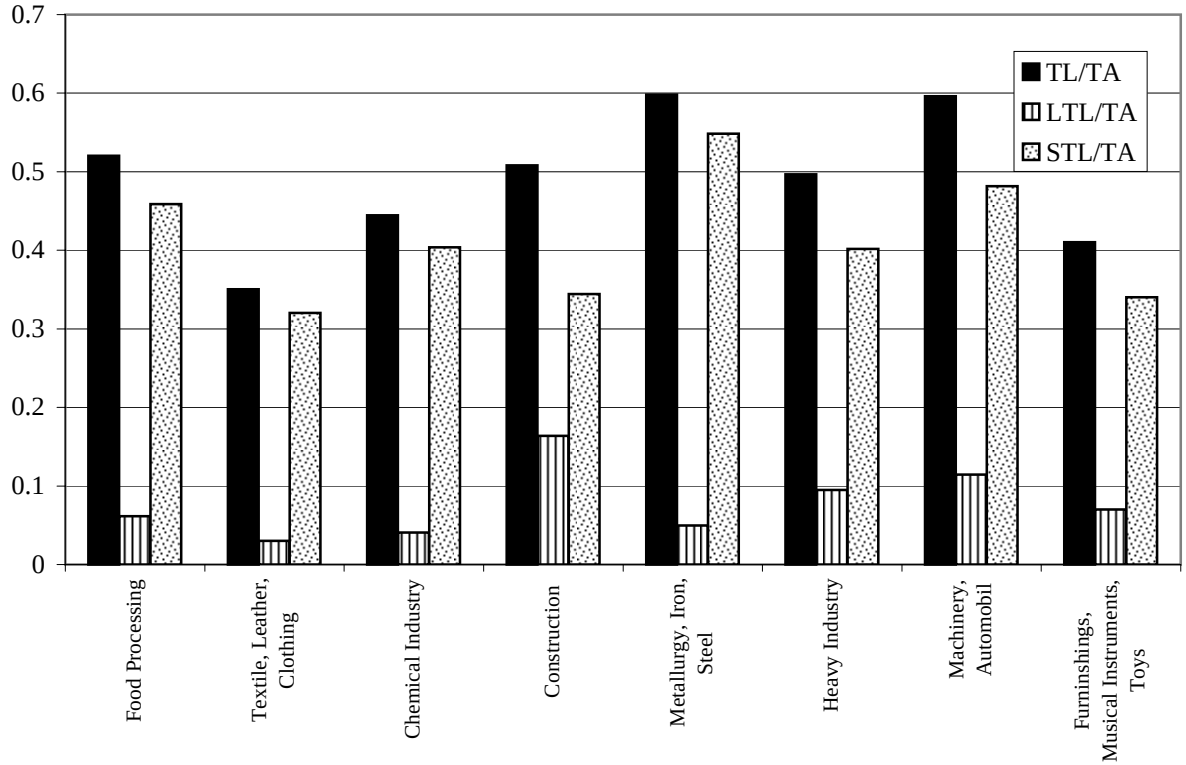


Figure 6. 1997



Source : Estimated and illustrated by the author.

Figure 7. 1998

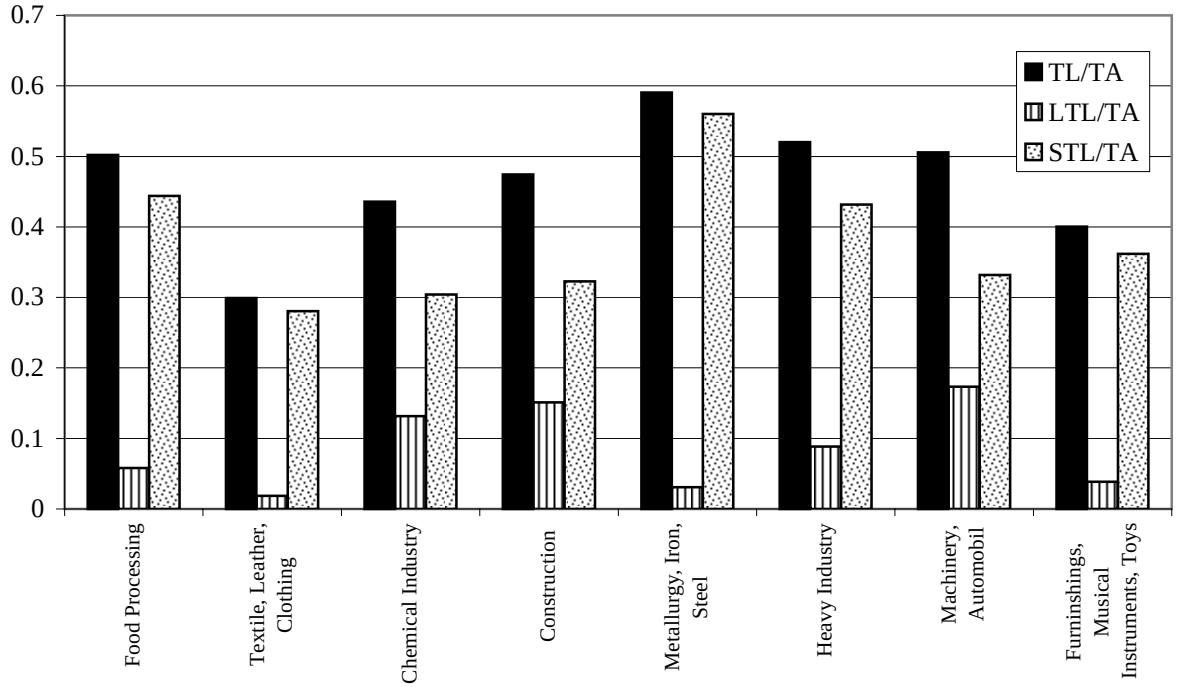
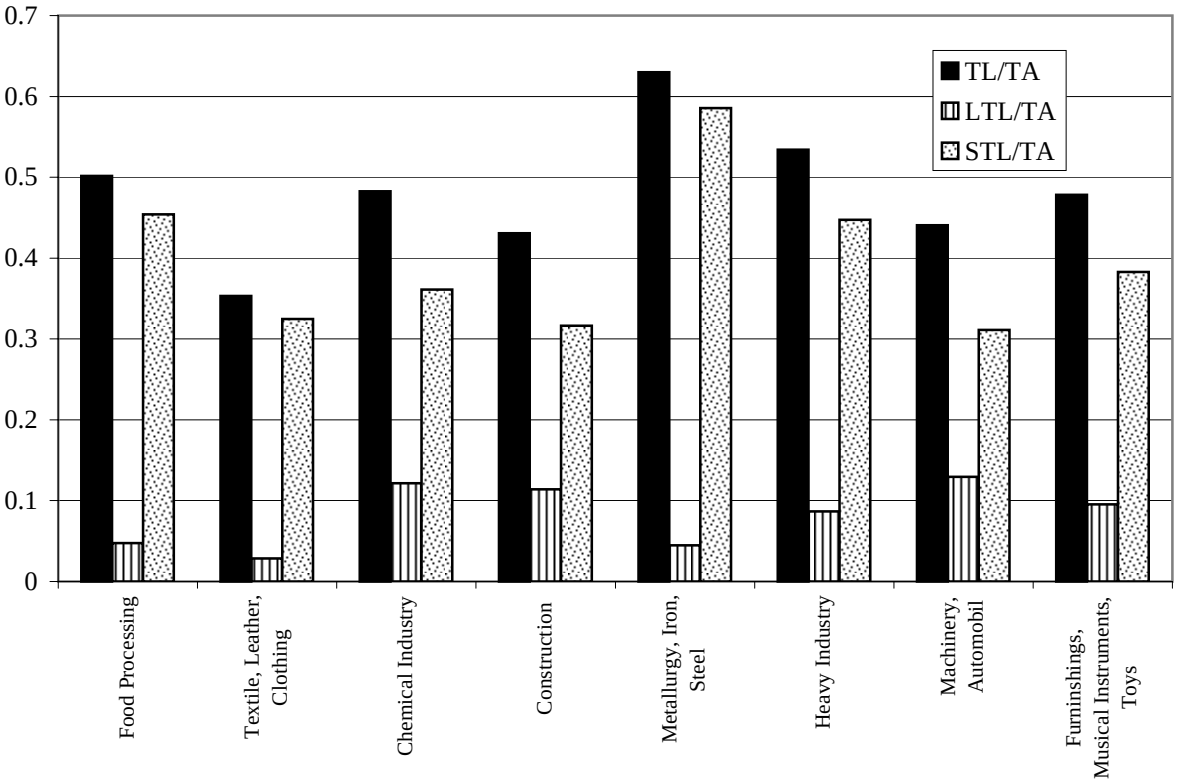


Figure 8. 1999



Source : Estimated and illustrated by the author.

Figure 9. 2000

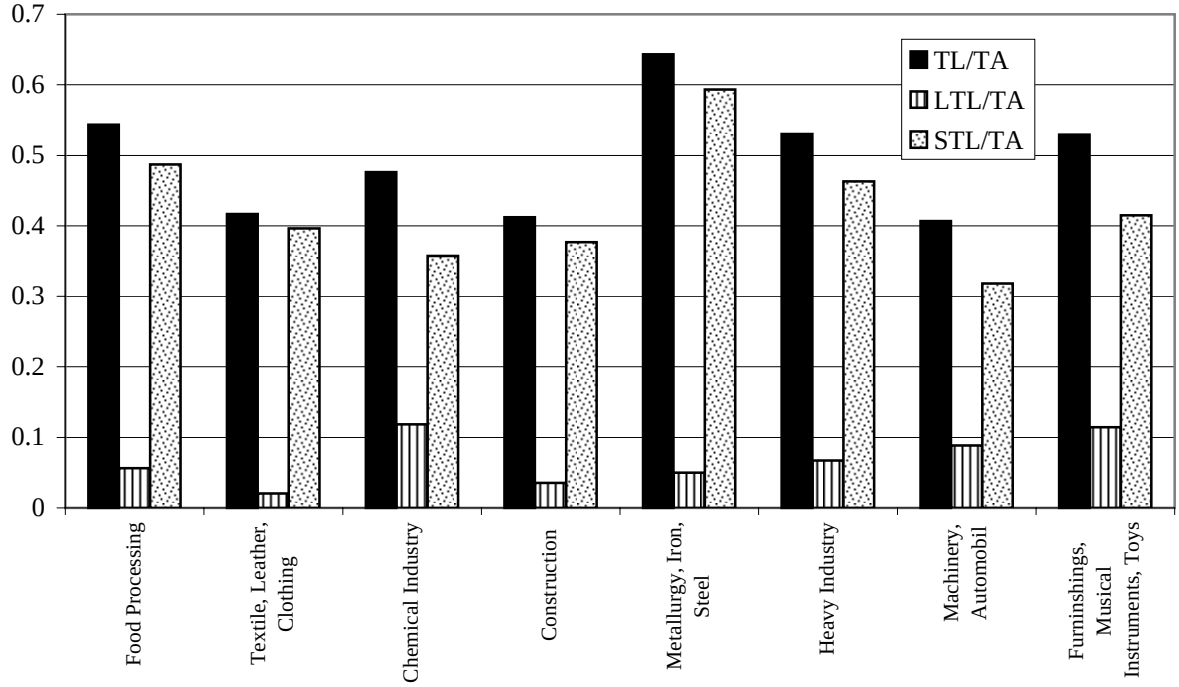
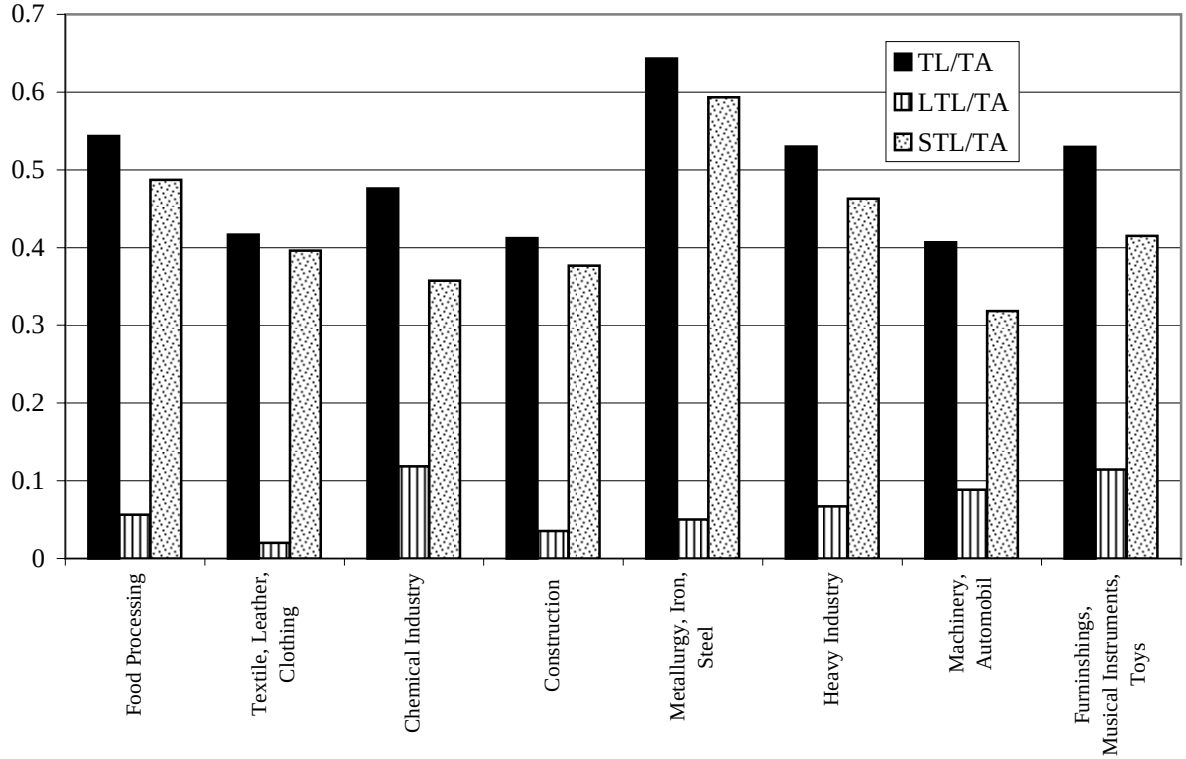


Figure 10. 2001



Source : Estimated and illustrated by the author.

Figure 11. Food Processing

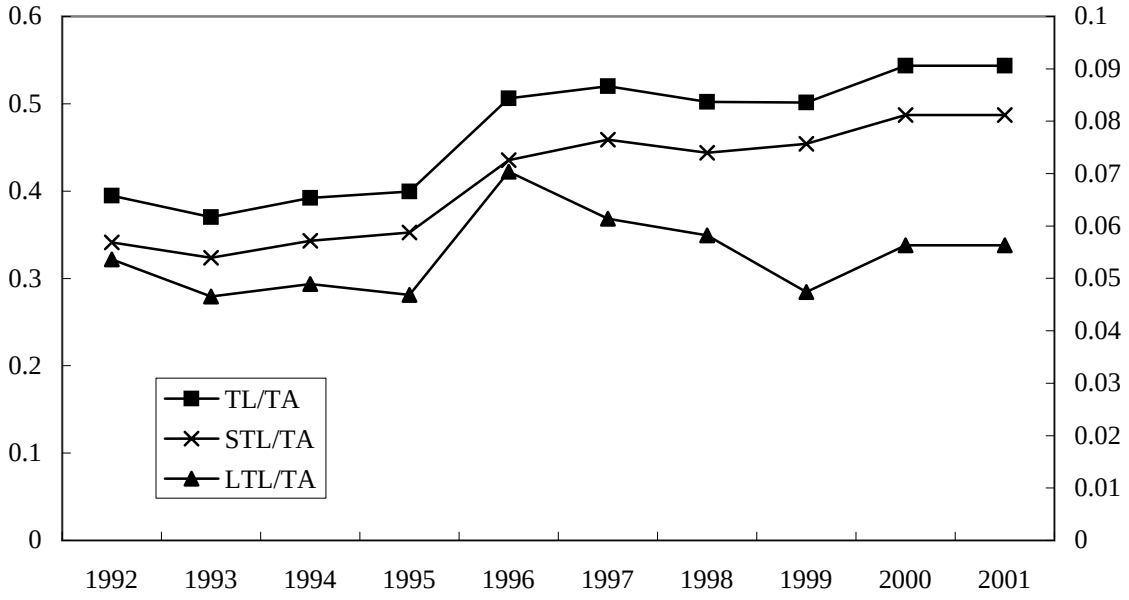
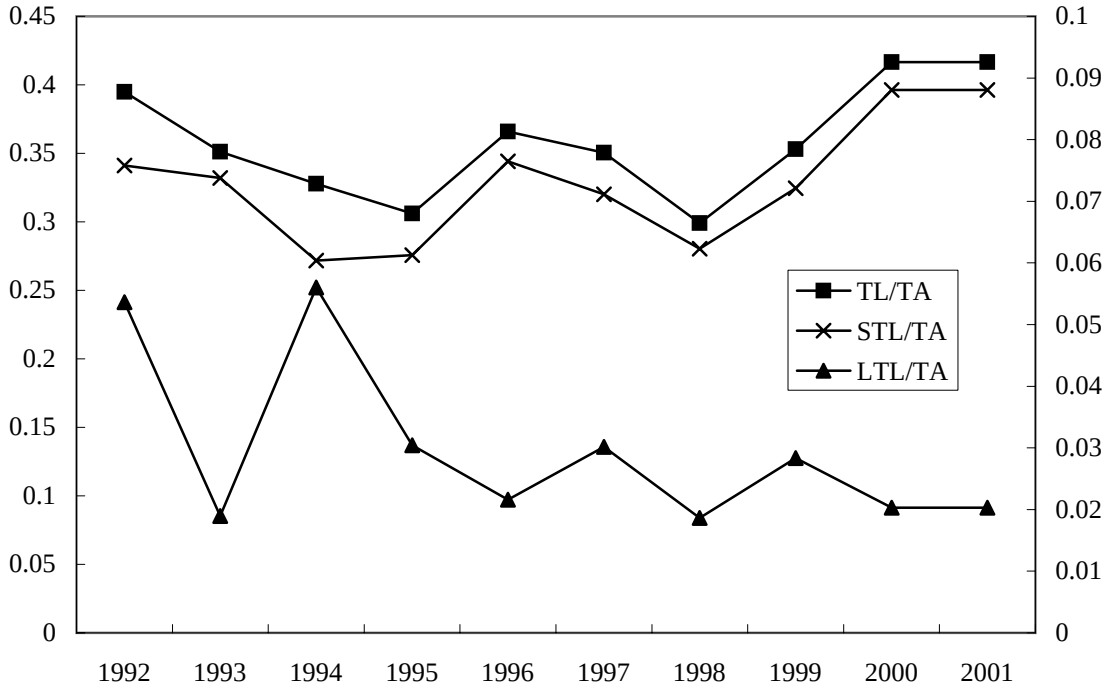


Figure 12. Textile, Leather and Clothing Industries



Source : Estimated and illustrated by the author.

Figure 13. Chemical Industry

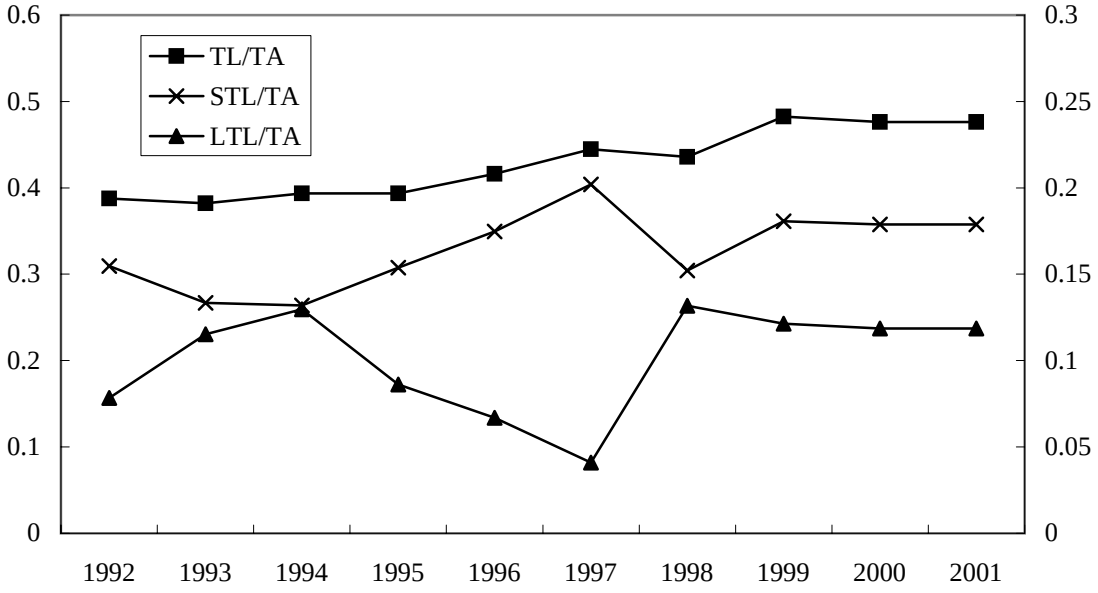
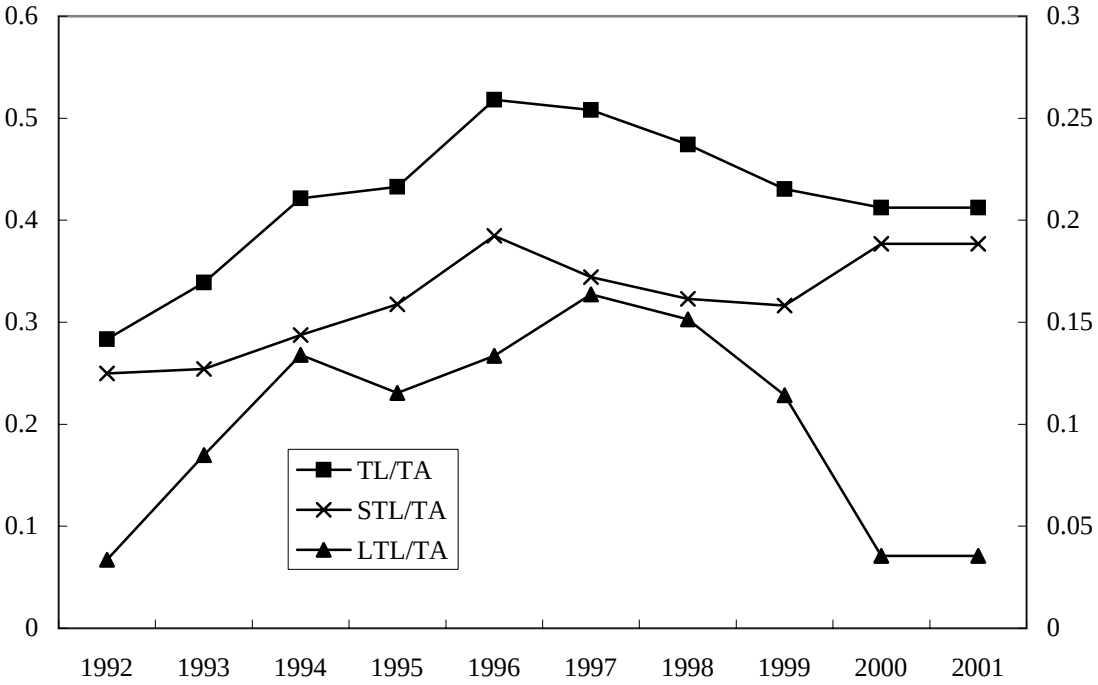


Figure 14. Construction Industry



Source : Estimated and illustrated by the author.

Figure 15. Metallurgy, Iron and Steel Industry

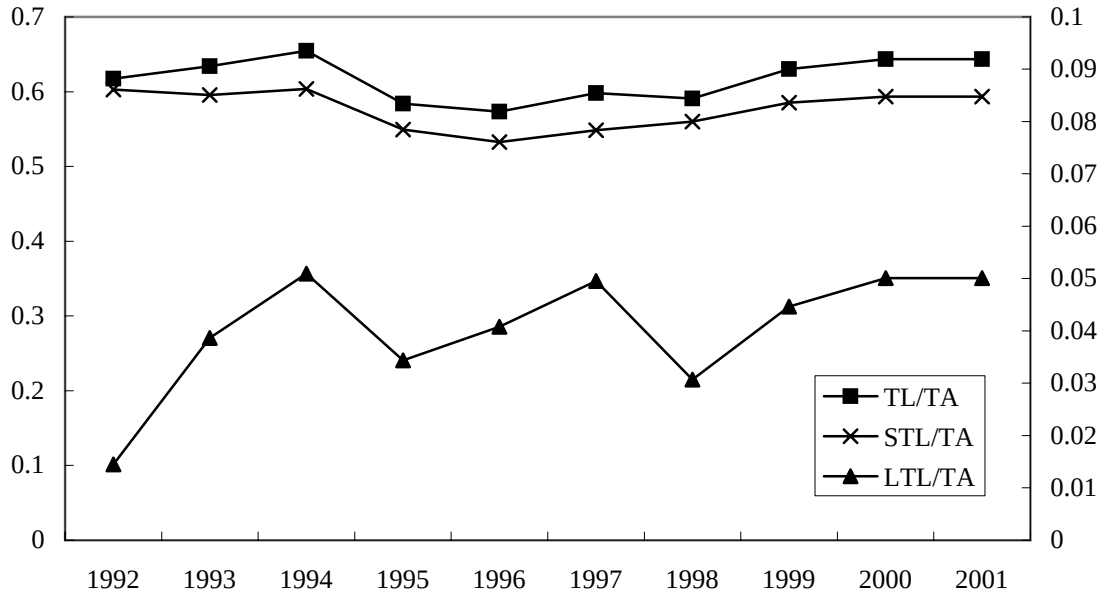
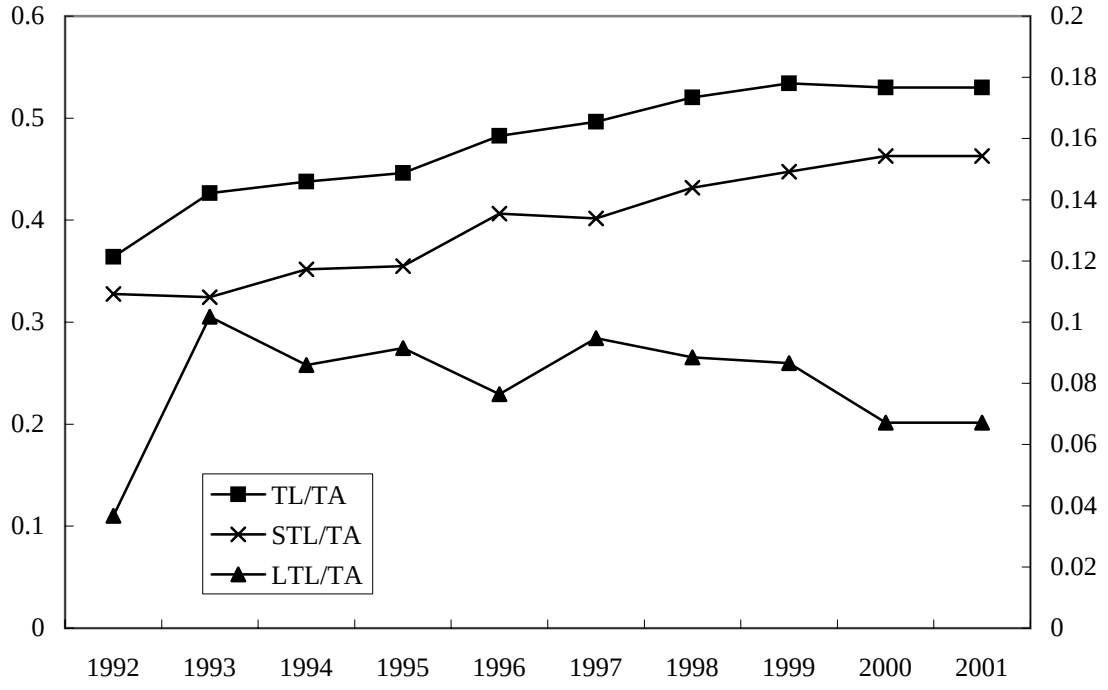


Figure 16. Heavy Industry



Source : Estimated and illustrated by the author.

Figure 17. Machinery and Automobile Industry

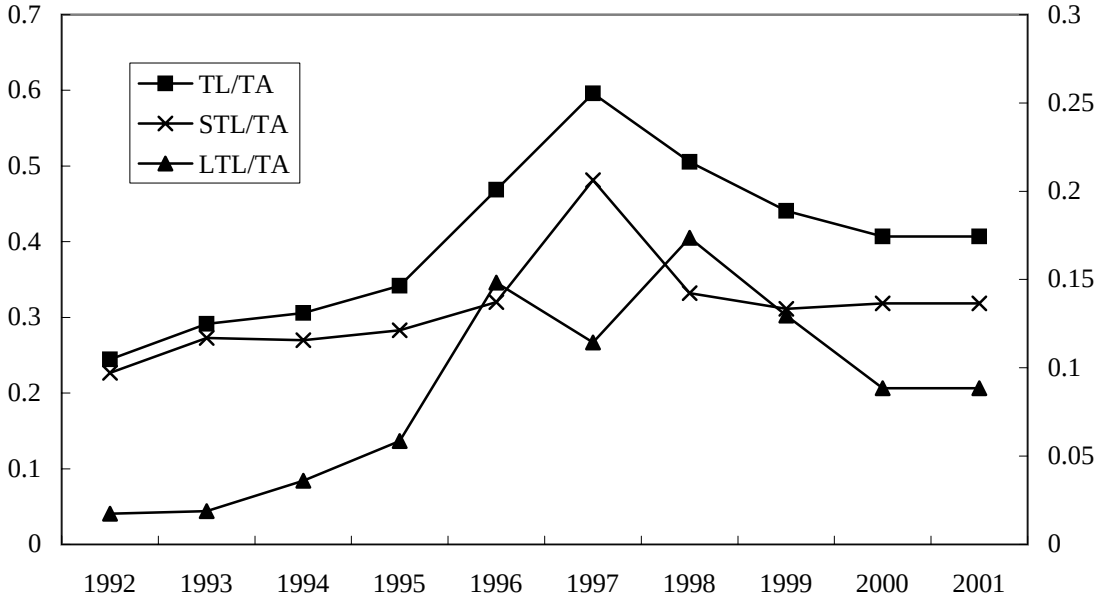
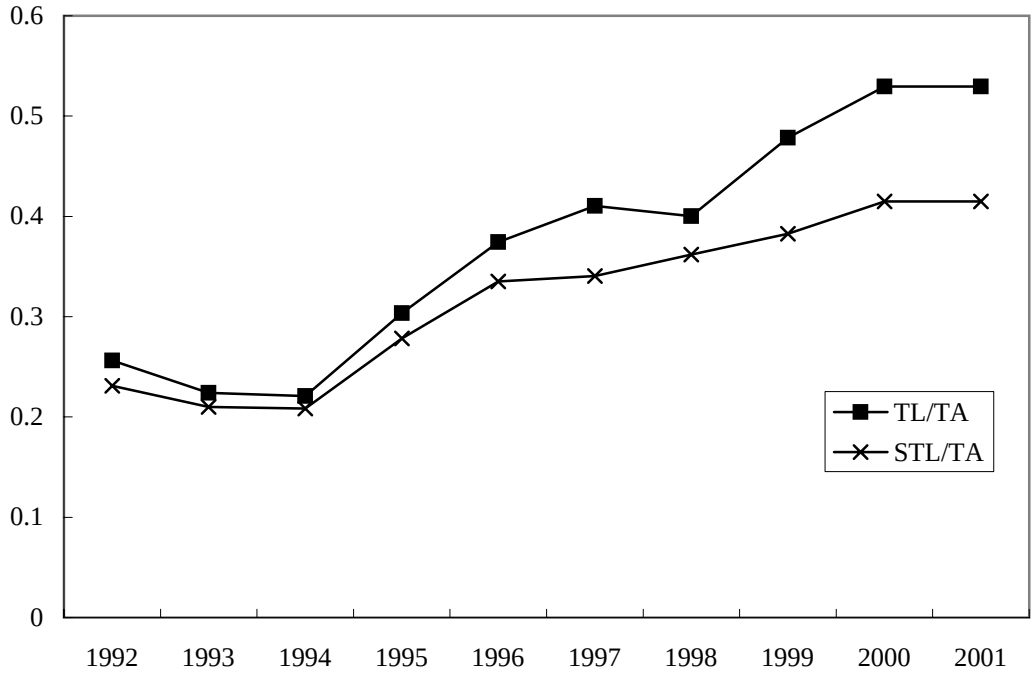


Figure 18. Home Furnishings, Musical Instruments, Toy Production



Source : Estimated and illustrated by the author.

Table 1. 1992-1993

1992	Total Companies (422)		Domestic Companies (188)		Foreign Companies (234)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	282	1675	65	181	457	n.a.
Short-term Liabilities	829	2781	480	1078	1109	3587
Equity	1896	n.a.	884	1801	2709	n.a.
Long-term Liabilities/Total Assets (%)	70	14.2	50	10.4	8.7	16.5
Equity/Total Assets (%)	54.4	29.6	54.7	26.1	54.6	32.2
Depreciation/Investment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt/Total Assets (%)	45.6	26.0	45.3	26.0	45.4	27.0
Profit after Taxes/Total Assets	0.013	0.21	0.036	0.13	-0.004	0.26
Short-term Liabilities Ratio (%)	38.6	27.2	40.3	24.2	36.7	29.4
1993	Total Companies (447)		Domestic Companies (198)		Foreign Companies (249)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	329	1550	91	262	517	2046
Short-term Liabilities	931	2942	539	1447	1242	3698
Equity	2014	12879	971	1862	2843	17146
Long-term Liabilities/Total Assets (%)	8.7	13.4	6.5	10.8	10.4	15.0
Equity/Total Assets (%)	55.9	24.8	55.7	24.3	56.1	25.2
Depreciation/Investment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt/Total Assets (%)	44.1	0.23	44.3	0.24	0.4	22.0
Profit after Taxes/Total Assets	0.17	0.11	0.03	9.53	0.01	0.13
Short-term Liabilities Ratio (%)	35.4	23.8	37.8	22.9	33.5	24.2

Source: Estimated by the author.

Table 2. 1994-1995

1994	Total Companies (458)		Domestic Companies (204)		Foreign Companies (254)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	383	1755	113	309	600	2320
Short-term Liabilities	1103	2933	597	1423	1509	3680
Equity	2172	12827	996	1843	3117	17102
Long-term Liabilities/Total Assets (%)	9.8	16.3	7.0	11.0	12.0	19.2
Equity/Total Assets (%)	50.4	25.3	51.1	24.0	49.9	26.3
Depreciation/Investment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt/Total Assets (%)	49.6	24.0	48.9	24.0	50.1	25.0
Profit after Taxes/Total Assets	0.028	0.14	0.03	7.9	0.02	0.18
Short-term Liabilities Ratio (%)	39.8	21.5	41.9	23.0	38.1	20.1
1995	Total Companies (468)		Domestic Companies (208)		Foreign Companies (260)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	454	2295	113	283	727	3044
Short-term Liabilities	1537	4780	694	1433	2211	6208
Equity	2591	n.a.	1124	2019	3765	n.a.
Long-term Liabilities/Total Assets (%)	9.3	23.1	6.4	9.3	11.1	29.7
Equity/Total Assets (%)	49.7	31.4	51.8	24.1	48.7	36.2
Depreciation/Investment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt/Total Assets (%)	56.3	31.0	48.2	24.0	51.3	35.0
Profit after Taxes/Total Assets	0.05	0.18	0.06	0.12	0.04	0.22
Short-term Liabilities Ratio (%)	41.0	21.9	41.8	24.1	40.2	20.1

Source: Estimated by the author.

Table 3. 1996-1997

1996	Total Companies (470)		Domestic Companies (209)		Foreign Companies (261)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	608	n.a.	667	n.a.	952	n.a.
Short-term Liabilities	1987	n.a.	1852	n.a.	2808	n.a.
Equity	2963	n.a.	2179	n.a.	4333	n.a.
Long-term Liabilities/Total Assets (%)	10.5	37.3	5.9	n.a.	14.1	49.1
Equity/Total Assets (%)	42.7	83.2	43.2	106.0	43.0	59.2
Depreciation/Investment (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt/Total Assets (%)	57.3	82.9	56.8	106.0	57.0	58.4
Profit after Taxes/Total Assets	0.05	0.32	0.04	0.41	0.06	0.19
Short-term Liabilities Ratio (%)	46.8	73.3	50.9	107.3	41.9	20.7
1997	Total Companies (477)		Domestic Companies (211)		Foreign Companies (266)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	683	3963	222	806	1048	5234
Short-term Liabilities	2667	8624	1205	2322	3826	11237
Equity	3887	17124	1489	2283	5789	22802
Long-term Liabilities/Total Assets (%)	11.2	58.4	6.2	7.6	15.2	77.8
Equity/Total Assets (%)	47.8	68.9	51.8	19.3	43.8	90.0
Depreciation/Investment (%)	38.1	330.5	50.8	478.3	28.4	139.8
Debt/Total Assets (%)	52.2	68.0	48.2	19.0	56.2	89.0
Profit after Taxes/Total Assets	0.08	0.19	0.09	0.102	0.08	0.25
Short-term Liabilities Ratio (%)	41.0	21.0	42.0	18.2	41.0	23.0

Source: Estimated by the author.

Table 4. 1998-1999

1998	Total Companies (477)		Domestic Companies (212)		Foreign Companies (265)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	916	6008	298	1052	1410	7978
Short-term Liabilities	3272	10085	1348	2429	4811	13165
Equity	4952	22027	1728	2554	7531	29233
Long-term Liabilities/Total Assets (%)	11.3	53.1	7.1	9.4	14.7	70.7
Equity/Total Assets (%)	45.1	63.7	49.9	18.2	43.3	84.0
Depreciation/Investment (%)	87.0	615	143.6	876.5	42.6	264
Debt/Total Assets (%)	53.3	62.0	50.1	17.0	56.7	82.0
Profit after Taxes/Total Assets	0.08	0.14	0.07	0.1	0.08	0.17
Short-term Liabilities Ratio (%)	42.0	21.2	43.0	17.0	42.0	24.0
1999	Total Companies (478)		Domestic Companies (212)		Foreign Companies (266)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	1143	n.a.	328	1245	1793	n.a.
Short-term Liabilities	4116	n.a.	1655	2769	6078	n.a.
Equity	5956	n.a.	2002	3552	9108	n.a.
Long-term Liabilities/Total Assets (%)	9.1	10.5	6.7	7.4	11.0	12.1
Equity/Total Assets (%)	48.8	17.7	51.8	16.2	48.0	18.8
Depreciation/Investment (%)	29.1	189.2	36.3	234	23.5	144.6
Debt/Total Assets (%)	51.2	173.3	48.2	16.1	52.0	18.2
Profit after Taxes/Total Assets	0.07	0.102	0.07	0.08	0.07	0.11
Short-term Liabilities Ratio (%)	42.1	16.2	41.5	15.1	41.0	17.0

Source: Estimated by the author.

Table 5. 2000-2001

2000	Total Companies (375)		Domestic Companies (126)		Foreign Companies (249)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	1225	3567	532	1754	1575	4155
Short-term Liabilities	5657	n.a.	2519	3269	7245	n.a.
Equity	7260	29390	3056	5210	9388	35713
Long-term Liabilities/Total Assets (%)	9.7	11.1	6.5	6.9	11.3	12.4
Equity/Total Assets (%)	46.5	17.3	47.0	15.8	45.0	17.9
Depreciation/Investment (%)	65.8	620.2	70.8	483	63.4	677
Debt/Total Assets (%)	53.5	16.0	50.9	0.15	55.0	17.0
Profit after Taxes/Total Assets	0.07	9.37	0.07	6.72	0.07	0.1
Short-term Liabilities Ratio (%)	43.8	0.159	44.4	15.0	43.7	16.3
2001	Total Companies (478)		Domestic Companies (212)		Foreign Companies (266)	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Long-term Liabilities	1507	n.a.	400	1181	2388	n.a.
Short-term Liabilities	6848	n.a.	2434	3743	10366	n.a.
Equity	8112	n.a.	2619	4640	12410	n.a.
Long-term Liabilities/Total Assets (%)	9.3	11.2	6.1	7.1	11.9	13.1
Equity/Total Assets (%)	46.8	17.9	49.0	16.3	46.6	19.1
Depreciation/Investment (%)	110	1976	236.0	2983	12.4	29.4
Debt/Total Assets (%)	53.2	0.2	52.0	0.16	53.4	18.0
Profit after Taxes/Total Assets	0.05	n.a.	0.06	8.8	0.05	0.1
Short-term Liabilities Ratio (%)	43.9	16.6	45.9	15.4	41.5	17.3

Source: Estimated by the author.