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Workshop Proceedings

Hungary and EU Eastern Enlargement

Bernhard Felderer, Helmut Frisch, Bernhard Boehm
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Founded in 1963 by two prominent Austrians living in exile – the sociologist Paul F. Lazarsfeld and the economist Oskar Morgenstern – with the financial support from the Ford Foundation, the Austrian Federal Ministry of Education and the City of Vienna, the Institute for Advanced Studies (IHS) is the first institution for postgraduate education and research in economics and the social sciences in Austria. As usual, authors bear full responsibility for the content of their contributions.

Das Institut für Höhere Studien (IHS) wurde im Jahr 1963 von zwei prominenten Exilösterreichern – dem Soziologen Paul F. Lazarsfeld und dem Ökonomen Oskar Morgenstern – mit Hilfe der Ford-Stiftung, des Österreichischen Bundesministeriums für Unterricht und der Stadt Wien gegründet und ist somit die erste nachuniversitäre Lehr- und Forschungsstätte für die Sozial- und Wirtschafts-wissenschaften in Österreich. Die inhaltliche Verantwortung für die veröffentlichten Beiträge liegt bei den Autoren und Autorinnen.

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Preface

by Karl-Heinz Grasser (Federal Minister of Finance, Austria)

The process of enlarging the EU by accession of central and east European countries is based on satisfying specific political and economic criteria, formulated by the Copenhagen European Council in 1993:

i) The existence of stable institutions guaranteeing democracy, the rule of law, and human rights;

ii) a functioning market economy and the ability of the economy to withstand competitive pressure and market forces within the European Union;

iii) the ability to take on the obligations of membership, including adherence to aims of political, economic and monetary union.

I think, the papers presented at this conference and the discussions of them during this meeting have shown that Hungary has fulfilled all three criteria, requested by the European Union.

Some people may ask: "Why to organize this conference on Hungary? There are ten Central and Eastern European Countries negotiating for the accession." To answer, let me emphasize that Austria is interested in the development of all accession countries but Hungary is our closest and most important trading partner. To give you only one figure: The level of exports from Austria to Hungary amounts to 5 % of total exports, which is nearly the same as the export share to Switzerland (5.4 %) and to the UK (4.8 %). So, I am pleased to have a group of distinguished Hungarian economists at this conference who gave a thorough and fair analysis of the present Hungarian situation. I am personally strongly impressed by the remarkable advances of the Hungarian economy in the last decade: By its gain in competitiveness, its success in the process of budget consolidation, and by its economic reform policy.

A few months ago there has been a parliamentary election in Hungary and, as we know, it has brought about a change of the government. Although with a small margin, the representatives of the socialists and liberals together obtained a majority in the Hungarian parliament. I appreciate the opportunity to welcome at this conference **Mr. Csaba László**, the minister of finance of the new government and I like to take the opportunity to express my sincere hopes that the new government in its economic policy will go the same way as the previous government, in other words, that the accession to the European Union will have the same high priority as for the previous government.

Preface

by Bernhard Felderer[§]

From the present volume putting together opinions from experts specialised in aspects of the Hungarian economy, it is easily seen that Hungary is preparing itself very well for accession to the European Union. The economy of the country is – after certain problems in the middle of the 90s – in excellent shape.

1. Economics Status

The real growth rate of the Hungarian Gross Domestic Product since 1997 is between 4.2 %and 5.2 %. Even in the year 2001 with very low growth of international trade and recessions in some important countries e.g. in Germany, Hungary managed to come out with a real growth rate of GDP of 3.8 %. Though exports in 2001 grew more than imports (11.0 % / 8.7 %) a moderate deficit in the balance of trade still prevails. Growth forecasts for the next years are excellent.

Gross fixed capital formation is increasing at a satisfactory rate and construction is booming around 10 % in 2001. Real wage increased in 2001 by 7 % which should result in a fast increase of consumption in 2001 and 2002.

The labour market in particular in the West of Hungary is in surprisingly good shape. Though employment increases where not very high, unemployment is declining since many years and is presently at a level of 5.5 % which is low by European standards.

The annual rate of increase of consumer prices declined sharply since 1999 from 28.2 % to 9.2 % in 2001. This can be considered as a very successful stabilization policy, however, Hungary has to go a few more steps before entering the European Community.

As a conclusion we can summarize that the Hungarian economy is preparing itself successfully for being considered a serious candidate for membership in the European Union in 2004.

2. Economic Assessment of Enlargement

There is no doubt that Austria and Hungary would both profit in their economic development from membership of Hungary in the European Union. Low factor prices will enhance Austrian and foreign direct investment in Hungary and will further increase Hungarian exports and Hungarian wages. Both economies will go through a period of adaptation to the new

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situation. There is some fear in Austria that Hungarian production with low capital intensity in particular simple services might represent a competition which the Austrian competitors could not withstand. There is also fear that migration or commuting workers might disturb Austrian labour markets. We know that there are also fears in Hungary. I believe that we cannot build a decision which will influence the well-being of our two countries for decades on fears of people without visions. The Institute for Advanced Studies was always pleading for transition periods in the labour market and for small services. As we all know we will have a transition period of 7 years for the labour market and we are convinced that we will see a rapid adaptation of business to the new situation.

The main concern in Austria are consequences on the labour market. Though migration to Austria is no longer seen as the main problem, commuting workers to the East of Austria in particular to Vienna might be a more relevant problem. But as the West of Hungary is developing rapidly, the number of commuters will probably be much less important than feared today.

3. Unsolved Problems for 2004

From the beginning of the discussions about enlargement of the European Community the EU decided to extend the Community geographically by accepting a whole group of candidates as new members under the condition that they accept the *Acquis Communitaire* and fulfil certain conditions for their economy.

This concept of a big bang-enlargement could become problematical because we are running out of time if we want to complete enlargement by 2004. This is to say that not all countries with which the EU has negotiated a possible membership are as well prepared as Hungary for becoming a full member. There are economic and political problems that have emerged. With some countries the negotiations about certain chapters of a possible contract are stuck.

The worst reaction of the European Union would be to postpone the accession of all candidate countries. However, the likelihood of this outcome of the negotiations is increasing the closer we come to 2004. It seems that some European politicians are tempted to use the problems in the negotiations with the accession countries as a pretext for not being able to solve the constitutional problems of the European Union and of the European Central Bank.

If these problems cannot be solved in due course, Austria and Hungary should try to convince the European Union to proceed with the accession of candidate members in a sequential way and to drop the current concept of enlargement. This means that some variation of a Europe with different speeds of integration seems to be a more realistic concept for European integration.

Introduction

Helmut Frisch[§] and Bernhard Boehm[§§]

Hungary belongs to the group of eastern European countries which, like Poland, Slovenia, the Czech Republic and Estonia, have entered concrete negotiations for accession to the EU since November 1998. Already with the year 2004 the first eastern European countries are expected to join EU, in particular also Austria's neighbour Hungary. With approaching eastern enlargement of the EU it appears necessary to identify problem areas of economic policy that result from the EU enlargement process for Hungary and Austria. In order to promote a high level discussion of these ensuing problems Professors **Helmut Frisch** and **Bernhard Boehm**, both of the University of Technology, Vienna, undertook the preparation of a workshop which was organised by IHS with major financial support by the Austrian Federal Ministry of Finance. Raiffeisen Zentralbank (RZB), Vienna, provided additional funds for the conference.

Report: Conference

The conference on 6th June presented six sensitive topics which were analysed by prominent Hungarian economists and commented upon by Austrian discussants. After an opening statement by the director of the institute, **Bernhard Felderer**, the first paper presented by **Gábor Oblath** (Kopint-Datorg, Budapest) and **Sándor Richter** (WIIW, Vienna) was devoted to an overview of the macroeconomic and sectoral aspects of Hungary's international competitiveness and trade performance, in particular, the competitiveness of the country's manufacturing industry on EU-markets. Starting the analysis from the economic criterion among the well-known "Copenhagen criteria" of EU membership, "*the ability of the candidate country's economy to withstand competitive pressures within the enlarged Union*", is was stressed that this ability strongly depends on future conditions – in the year of accession and afterwards – of the economies of old and new members which are extremely difficult to predict presently. However, the review of Hungary's specific macroeconomic developments in the recent past has shown considerable improvements in "real" and "nominal" components of international competitiveness. In particular, labour productivity in manufacturing has grown at outstanding rates as compared to other transition countries while labour costs only increased modestly. The sectoral development appears somewhat unbalanced: strong growth in traded-goods industries is paired with modest growth in non-traded goods sectors and services. Recent changes in exchange rate policy and wage behaviour seem to point

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towards faster convergence of nominal wages and will make it harder for Hungary to improve market shares in international trade. The presentation ended with cautious predictions on the evolution of Hungary's future competitiveness.

Judit Neményi of Financial Research Ltd., Budapest, continued the session with a review of fiscal policy and government debt in Hungary in her paper on "Fiscal consolidation in the run-up to EMU". She maintained that the strategy of fiscal policy in this transition phase should be based on two core principles: transparent medium term orientation, guided by well-defined fiscal rules. Fiscal rules, if effective, might help creating fiscal discipline and meeting requirements for sustainability in the long run, while they allow the budget sufficient flexibility for addressing short term challenges stemming from the business cycle and shocks. In the medium term the fiscal strategy should target fulfilling the Maastricht convergence criteria and establishing conditions for compliance with the Stability and Growth Pact in a sustainable manner.

The second morning session of the workshop focused on the Hungarian capital market and the monetary system. **Zoltán Török** presented a survey on the capital market in Hungary and its perspective towards EU accession, produced together with his colleagues from Raiffeisen Securities and Investment in Budapest and Vienna. The Hungarian capital market meets the standards of developed markets in its regulatory and institutional framework. It has been an efficient channel of finance for the state but needs further development to fulfil its role as a source of corporate finance. The Hungarian stock market is deeply integrated in the global equity markets with foreign investors playing an extraordinarily significant role in the Budapest Stock Exchange. In terms of market capitalisation and liquidity it is comparatively small. The Hungarian stock market exhibits a risk discount due to the relative size of the companies and the market as well as the lower liquidity. The institutional framework of Hungary's capital market (both equity and fixed income) is basically in line with international standards. Concerning the regulatory framework the new 2002 January Capital Market Act is already fully EU compatible. The stock market would take advantage from the easing of the regulatory framework and some further privatisation through the stock exchange transactions. Increasing capitalisation and improving liquidity, plus an anticipation of EU and later EMU entry should bring about a decline of the risk premium. A positive market sentiment in turn would attract private companies to list on the stock exchange, and the Hungarian capital market could improve its role as a source of corporate finance.

The second paper in this session was given by **Julius Horvath** (Central European University) on banking and exchange rate policy in Hungary which has successfully reformed the banking sector. Today Hungary's banking sector functions well. A well-functioning banking sector helps to enforce corporate control and hard budget constraints. Also effective regulation and supervision of the banking and financial sector helps to moderate the potential vulnerabilities and avoids unnecessary risk-taking in the presence of heavy capital inflows. During the transition period Hungary introduced three exchange rate regimes, an

adjustable peg, then a crawling peg, and currently (from October 2001) Hungary's exchange rate regime is a target zone with wide band of ± 15 %, where the parity is determined in relation to the Euro. Horvath concluded with a consideration of the current development of the Forint, and an evaluation of the potential risks and vulnerabilities.

After a lunch break the workshop continued with a presentation by **Károly Fazekas** (Institute of Economics of the Hungarian Academy of Science, Budapest) on Hungarian labour market developments. After the start of the transition period output reduction in Hungary was accompanied by a serious decline in employment and a sharp upswing in unemployment. After 1993, in parallel with expanding production, unemployment began to diminish but employment showed prolonged stagnation whereas the ratio of the inactive population continuously increased up to 1997. Employment started to increase after 1997 for the first time in the decade of the transition to a market economy. The decline of unemployment was remarkable in the most prosperous regions where not only full employment has been reached but scarcity of labour has appeared in certain areas. Some western Hungarian urban areas had less than three percent unemployment rates and the figure for the capital was less than 2,5 percent. However, other labour market indicators a far less impressive: the employment ratio of the male population in the optimum working age (between 35-45 years) is the lowest in Europe; the participation ratio has been declining since the late 90's; Regional labour market differences have been continuously increasing. Fazekas provided an analysis of the causes and consequences of regional labour market disparities during and after transition and is convinced that regional factors have been playing a crucial role in Hungarian labour market developments.

The final presentation by **Peter Mihály** (Central European University) was devoted to reform policy and new institutional developments and emphasised that the success of Hungary in post-communist privatisation was achieved by being forced from the very beginning to divest Hungary's most valuable state owned enterprises against hard currency. Although this was then considered regrettable by many politicians, only around 1994-1995 Hungarian privatisation officials understood that selling to foreign strategic investors was a blessing in disguise. Only hindsight showed that this was the only conceivable way to put the Hungarian economy firmly on an export-led growth path.

Macroeconomic and Sectoral Aspects of Hungary's International Competitiveness and Trade Performance on EU-markets

Competitive Positions and Sectoral Growth of the Hungarian Economy

Gábor Oblath[§] and Sándor Richter[§§]

1. Introduction

Our paper aims to present an overview of the macroeconomic and certain sectoral aspects of Hungary's international competitiveness: in particular, the competitiveness of the country's manufacturing industry on EU markets. Our analysis thus takes as its point of departure one of the well-known 'Copenhagen criteria' governing EU membership which lay down both political and economic conditions that have to be met. The economic criterion relevant to our approach is *the ability of the candidate country's economy to withstand competitive pressures within the enlarged Union.* This ability is not easily proven; all the more so as it hinges on currently unpredictable *future* conditions – in the year of accession and thereafter – prevailing in the economies of both the old and new members (e.g. the business cycle, in general, as well as sector- and branch-specific cycles; the new members' external balances; exchange rate-related issues; impact of possible transitional arrangements for adopting the *acquis*, etc.).

That notwithstanding, the kind of analysis we intend to present in our paper, comprising a review of recent specific macroeconomic developments in Hungary, as well as a comparison of the country's external economic performance and competitiveness with both other candidate countries and an EU incumbent country (Austria)— may well provide a useful basis on which to judge the ability of the Hungarian economy to withstand the increasing competitive pressure in the European Union in the post-accession period.

In first part of the paper, we discuss the macroeconomic aspects and indicators of Hungary's international competitiveness. In the second part, both the competitiveness and the trade performance of the Hungarian manufacturing industry on EU markets are discussed. In the third part, we turn to sectoral aspects of competitiveness and trade performance and endeavour to identify those sectors that emerged as the main winners and losers in the course of the radical structural changes that characterized Hungary's manufacturing output

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and exports during the 1990s. Finally, we draw our conclusions, including some cautious predictions as to the evolution of Hungary's competitiveness in the years to come.

2 Macroeconomic background to Hungary's competitiveness and structural changes in the domestic economy

Below we address three issues. First, we briefly review the macroeconomic and policy background/environment governing Hungary' international competitiveness. Secondly, we take a look at developments in terms of output, employment and productivity in the main branches of the domestic economy. Thirdly, we analyse, and try to interpret, the evolution of real exchange rate indices.

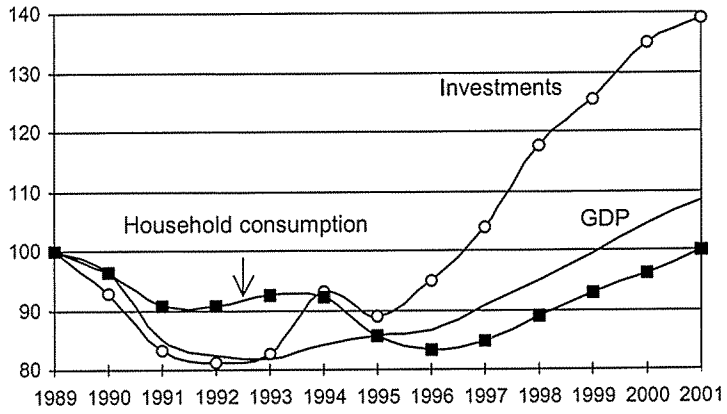
2.1 Macroeconomic and policy background

Our point of departure is a brief historical review of changes in output and components of domestic demand. Figure 1 shows some cardinal features of Hungary's macroeconomic history in the nineties. Like all transition economies, the country experienced a very sharp and deep recession in the early years of the decade (in the period 1989-1993 GDP fell by 18 %); investments slumped almost as much as output, while consumption also decreased, albeit to a lesser extent. By 1993, the gap between the change in output and domestic absorption resulted in a large external deficit. Output and investments started to rise in 1994; the external imbalance, however, remained excessive, leading to a severe stabilization package being introduced in early 1995. The stabilization measures brought about a further steep drop in consumption and a temporary drop in investments; however, owing to the increase in net exports, GDP did not fall. Since 1997, output has been increasing at an annual rate of some 4-5 %, with extremely rapid investment growth and relatively modest increases in consumption. In 1999, the volume of GDP reached its pre-transition level and consumption was still much lower (by about 7.5 %), yet investments were 25 % higher than they had been a decade earlier. By 2001, real GDP had risen 8.5 % above its level in 1989 and consumption returned to its pre-transition level, whereas investments stood at roughly 40 % higher than they had been in the last pre-transition year.

Figure 1.

The change in GDP, household consumption and investments, 1989-2000

(1989 = 100)

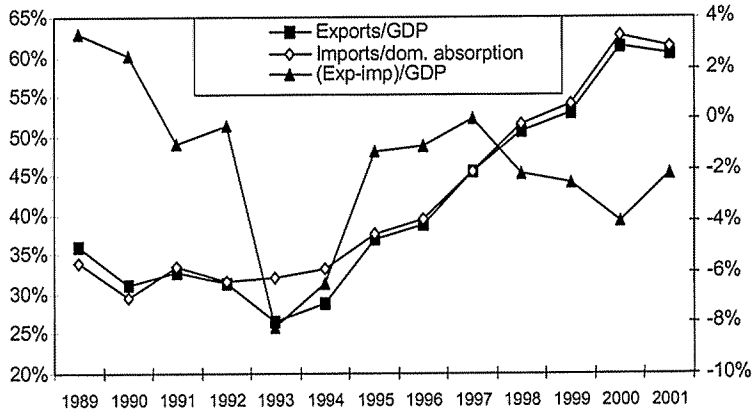


Source: Central Statistical Office (CSO).

Between 1995 and 2001, the rate of investment increased from 20 to 24 %.[1] The contribution of FDI-inflows to fixed capital formation was very significant in that period (see below). This points to the importance of the external sector in Hungary's macroeconomic development. Indeed, as shown by the following graph, the relative volume of exports and imports (*of goods and services*) is large and has been increasing at an extremely rapid rate.

Figure 2.

Exports relative to GDP, imports relative to domestic absorption (left scale) and net exports relative to GDP (right scale)



Source: Central Statistical Office (CSO).

[1] Owing to shifts in relative prices, the increase in the share of investments in GDP was larger at constant prices (5 percentage points) than at current prices.

Whereas exports/GDP may be considered an indicator of the export-orientation of production, imports/domestic absorption indicates the extent of 'import-penetration' or the role of imports in final domestic demand. As shown in the graph, a significant gap emerged between the two indicators in 1993-1994, accompanied by a sharp deterioration in net exports. The gap was almost closed in 1995, whereafter both export-orientation and import-penetration increased very rapidly (almost in parallel), while net imports fluctuated between 2 and 4 % of GDP. The recent *apparent* decrease in both export-orientation and import-penetration is due to the nominal (and real) appreciation of the domestic currency in 2001[2]: an issue to be addressed later.

In order to understand the marked export- (or the more generally outward-) oriented character of Hungary's economic growth in the second half of the 1990s, particular account has to be taken of three factors; (a) the size and role of FDI; (b) the behaviour of wages ; and (c) the conduct of economic policy (in particular, exchange-rate policy).

As for the role of FDI, the official balance-of-payments (BOP) statistics are somewhat misleading. The problem with measuring FDI is that Hungarian BOP figures do not include reinvested earnings, an important component of foreign direct investments. In Table 1 we present some calculations regarding the absolute and relative size of FDI, taking reinvested profits into consideration, as reported by the CSO.[3]

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[2] In real terms, both exports and imports continued to increase more rapidly than GDP in 2001.

[3] Although several problems may arise with adding up figures from different sources, we had no choice in this case. The NBH does not report data on reinvested earnings in the BOP: the CSO reports these figures when presenting the components of the difference between GDP and GNI (gross national income). Cash-flow statistics (prepared by the NBH) on FDI are based on data reported by commercial banks; reinvested earnings are based on the tax returns of the corporate sector. Therefore, the FDI figures on 'accrual-basis' (AB) in Table 1 are only meant to offer an approximate indication of the degree to which annual FDI due cash-flow statistics are underestimated.

Table 1.

Indicators of FDI flows, 1995-2000

(EUR billion and per cent)

	1995	1996	1997	1998	1999	2000
Gross FDI (CB) EUR bn	3.47	1.82	1.92	1.82	1.87	1.84
Net FDI (CB) EUR bn	3.44	1.82	1.53	1.39	1.61	1.23
Reinvested profits EUR bn	0.78	1.09	1.57	1.74	1.87	2.12
Gross FDI (AB) EUR bn	4.25	2.91	3.49	3.56	3.72	3.96
Net FDI (AB) EUR bn	4.21	2.91	3.10	3.13	3.48	3.35
			In per cent of GDP			
Gross FDI (CB)	10.1	5.0	4.7	4.3	4.1	3.6
Net FDI (CB)	10.0	5.0	3.8	3.3	3.6	2.4
Reinvested profits	2.3	3.0	3.9	4.2	4.1	4.2
Gross FDI (AB)	12.3	8.1	8.6	8.5	8.3	7.8
Net FDI (AB)	12.2	8.1	7.7	7.5	7.7	6.6
Current account/GDP (CB)	-5.5%	-3.7	-2.1	-4.9	-4.3	-2.5
			In per cent of gross capital formation			
Gross FDI (CB)	50.2	23.6	21.3	18.4	17.2	15.0
Net FDI (CB)	49.7	23.6	17.0	14.0	14.9	10.1
Reinvested profits	11.2	14.1	17.5	17.6	17.3	17.4
Gross FDI (AB)	61.4	37.7	38.8	36.0	34.5	32.4
Net FDI (AB)	60.9	37.7	34.5	31.7	32.3	27.4

Note: CB: cash-flow basis; AB: accrual basis.

Source: NBH (CB-figures) and CSO (reinvested earnings): National Accounts.

By 1999, the volume of reinvested earnings, as reported by the CSO, was on a par with that of gross FDI in the balance of payments. Even if we consider the CSO-figures to have overestimated the volume of reinvested profits, there can no question that the actual volume of FDI in Hungary (on an accrual basis) is much closer to the AB than to the CB (official) figures shown in Table 1. Thus, over the past few years, the actual ratio of gross FDI to GDP is likely to have been closer to 8 %, rather than the official figure of around 4 %. The fact that earnings were reinvested on a large scale in Hungary is indicative of an implicit inflow having been ignored by official statistics.

While the interpretation of the calculated (AB) FDI figures relative to GDP do not involve fundamental conceptual problems, their *ratio to real investments* do. The latter figures (in the lower section of the table) have to be treated with caution[4] since up until 1999 about *one-*

[4] In actual fact, measuring FDI flows at current exchange rates (just as with any item in foreign currency) relative to GDP poses a problem: the official exchange rate is significantly undervalued relative to PPP. According to OECD-EUROSTAT calculations, Hungary's GDP at the official exchange rate was about 40 % of its GDP at PPP in 1999. Thus, the relative size of any foreign-currency item (in percent of GDP) would have to be scaled down significantly, if expressed in proportion to GDP at PPP.

third of the cumulative EUR 19,1 billion cash-FDI-inflow into Hungary consisted of *privatization revenue* that had little do with real capital formation. The proceeds were mainly used to redeem foreign public debt.

In order to assess the actual *macroeconomic* impact/importance of FDI, both BOP-statistics and our rough adjustments of the official figures have to be put aside, and data based on tax returns, as reported by the CSO (2002), used in their stead. As it turns out, the importance of FDI in the Hungarian economy is much more significant than the picture revealed by BOP-statistics. Table 2 below which relates to the non-financial corporate sector shows the contribution to performance in that sector of companies with more than 10 % foreign ownership.

Table 2.

Contribution of foreign-owned companies to indicators in the corporate sector

(in per cent)

	Value-added	Investments	Exports	Imports
1994	39	51	54	57
1995	39	60	58	63
1996	43	54	69	70
1997	48	60	75	74
1998	48	60	77	74
1999	49	59	80	76
2000	49	57	75	76

Source: CSO (2002).

Up until 1998-1999, the role of (partly or fully) foreign-owned companies had been increasing almost continuously in all three respects presented in Table 2: output, investments and foreign trade. In 1999-2000, the monotonous increase would appear to have come to a halt; even a slight reversal would seem to have occurred in terms of exports and imports, but it is too early to decide whether former trends have in fact been ruptured. However, the foreign-owned sector displays two prominent features. First, it has had a higher share in investments than in value-added, while its share in foreign trade is higher than in investments. Secondly, whereas in the mid-1990s, this sector registered a higher share in imports than in exports, the two ratios were reversed in 1997-99, only to be followed by yet another reversal in 2000.

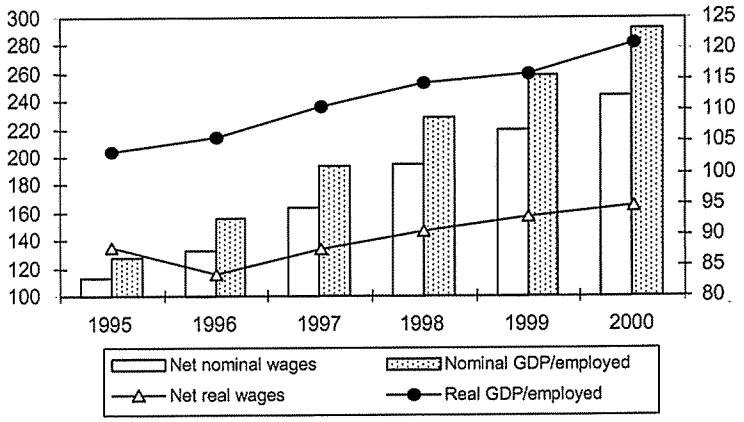
It should be emphasized that the characteristics of the sector with more than 10 % foreign ownership actually apply to companies with full (or at least more than 50 %) foreign involvement since the latter provide the bulk of value-added, investments and foreign trade generated by foreign-owned companies. We may thus conclude that: (a) investments from FDI-flows have become an integral and extremely dynamic feature of the Hungarian economy; and (b) their current macroeconomic impact cannot be assessed on the basis of the FDI-inflows recorded in the balance of payments.

Although relative changes in investments and consumption have already indicated the type of shift in income shares that took place in the second half of 1990s, it is worth taking a look at wage developments in that period as well. Figure 3 shows developments in terms of net wages. Since 1995, a large gap has emerged between nominal wages per wage earner on the one hand, and nominal GDP per employed person on the other. The gap is more significant, and has even been increasing in terms of real wages and GDP/employment. Although the official data on real wages, presented in the figure, tend to overestimate the actual decline in net wages, there can be no question that in the second half of the 1990s, incomes have undergone a vast redistribution much to the detriment of wage-earners.

Figure 3.

Net nominal wages and nominal GDP/employed (left scale); net real wages and real GDP/employed (right scale)

(1994 = 100)



Source: CSO.

As a final point, we should draw attention to the fact that at least up until 2001 (a pre-election year), sustaining international competitiveness constituted a major goal of *economic policy*. The cautious liberalization of (non-FDI) capital inflows, restraint in wage increases in the public sector, prudence in increasing public expenditures and, most importantly, maintenance of a crawling-band exchange rate regime – all contributed to the international competitiveness of the Hungarian economy.

All in all, in the second half of the 1990s, autonomous developments and the macroeconomic policy stance adopted lent firm support to improvements in international competitiveness. The country witnessed a significant growth in output, a large inflow of FDI and a considerable increase in the investment rate. Meanwhile, increases in real wages were rather limited and a crawling exchange rate regime was maintained in order to sustain the exporters' competitive position.

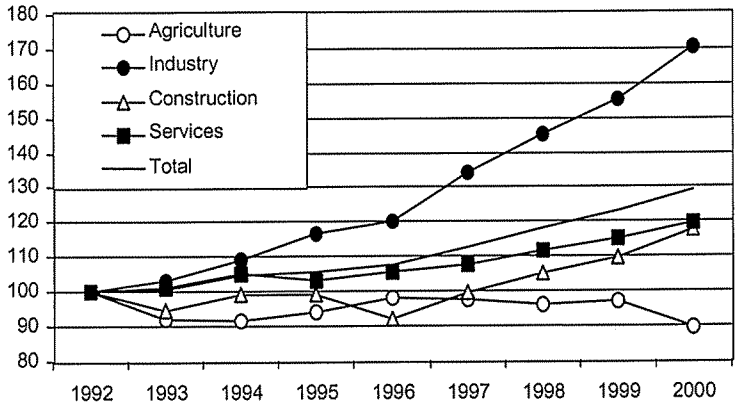
2.2 Sectoral output, employment and productivity

In this section, we review general developments on the supply side of the Hungarian economy in order to identify the major shifts in sectoral output, employment and productivity. Figure 4 shows the changes in real GDP and value-added in the main branches (agriculture, industry, construction and services) relative to 1992. 1992 was taken as the year of reference since it marked the end of the so-called 'transformational recession'.[5]

Figure 4.

Real growth in value-added, by main branch

(1992 = 100)



Source: Central Statistical Office (CSO).

Clearly, industry was the outright 'winner' and agriculture was the 'loser' during developments after 1992. While gross value-added (GDP at factor cost)[6] increased by almost 30 % in the economy as a whole, and by more than 70 % in industry, it fell, amid fluctuations, by 10 % in agriculture. In services, the increase was about 20 %, roughly the same as in construction.

The next figure shows trends in employment.

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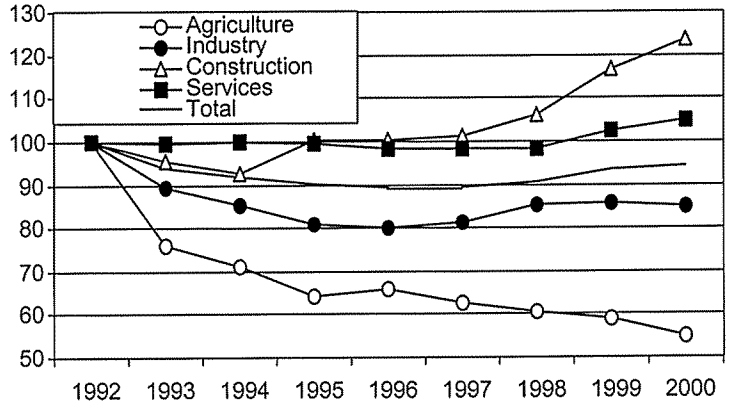
5 On the meaning of 'transformational recession' see Kornai (1994).

6 It should be noted that output (and its change), measured as the value-added of all sectors, does not match GDP (and its change). The reason is that the sum of the sectoral figures does not include two important adjustments necessary to reach GDP: correction for FISIM (Financial Intermediary Services Indirectly Measured) and correction for product taxes.

Figure 5.

Changes in employment, by main economic sector

(1992 = 100)



Source: CSO.

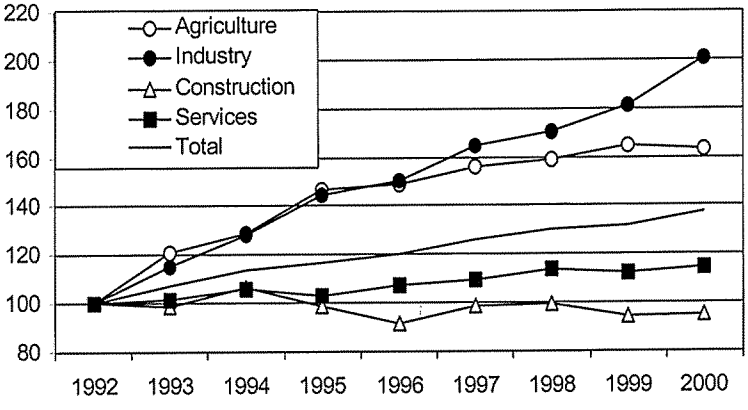
While overall employment fell by almost 6 % in the period 1992-2000, 1998 witnessed a turn in the declining trend. Construction and services are the two sectors to have recorded an increase relative to 1992; however, despite the increase since 1996, the level of employment in industry is still far below the base period. Employment in agriculture was almost halved over the eight years under review.

Figure 6 shows the effects of changes in output and employment on labour productivity. While overall productivity increased by roughly 37 %, it doubled in industry and grew by more than 60 % in agriculture. Productivity growth in services was much smaller (14 %) and in construction it was negative (-5 %).

Figure 6.

Changes in productivity, by main economic sector

(1992 = 100)



Source: CSO.

Table 3 shows employment and output shares by main economic sector in 1992 and 2000, as well as changes therein over that period.

Table 3.

Changes in employment and output shares, 1992-2000

(in per cent and percentage points)

	Employment			*Output*			
	Shares		Changes in shares[1]	Shares at current prices		Changes in shares at current prices[1]	Changes in shares at prices of 1992[1]
	1992	2000		1992	2000		
Agriculture	11.3%	6.5%	-4.7	7.2%	4.2%	-3.0	-2.2
Industry	29.7%	26.8%	-3.0	27.3%	28.7%	1.4	8.7
Construction	5.3%	7.0%	1.6	5.9%	4.6%	-1.2	-0.5
Services	53.7%	59.7%	6.0	59.6%	62.4%	2.8	-4.4
Total	100%	100%	-	100%	1000%	-	-

Note: [1)] Percentage points.

Source: Calculations based on CSO.

There was a clear shift *from* agriculture and industry *towards* services in terms of employment, but the changes were far less in terms of output shares – at least, as long as shares are considered at current prices. However, if production shares in 2000 are considered at base-period prices, the picture is entirely different (cf. the last two columns of Table 3). At constant prices there was a very marked shift in output shares from all other sectors, *including services*, towards industry. This points to two important developments.

- First, the nature of Hungary's economic growth (following the transformational recession) has been based much more firmly on industrial expansion than that implied by the minor shifts in output shares. In fact, the country's overall development over this period can be characterized as something akin to 'reindustrialization'. The reason for this type of development not being self-evident is that prior to political transformation in 1990, the country's economy was rightly considered as 'over-industrialized' and 'under-serviced'. This initial state of affairs could also have led to a different growth path: one more firmly based on the emancipation and expansion of the service sector. What actually happened, however, was an enormous drop (30%) in industrial value-added in the period 1989-1992; the output-loss in services over that period, however, was much smaller. Thus, in the initial years of economic transformation, the adjustment in output shares came about via differential losses in production. That period was followed by a rapid (and accelerating) increase in industrial output which was pronouncedly export-oriented and mainly based on foreign direct investment. Developments in the period 1992-2000, and especially in the second half of the decade, can thus be accurately described as a process of reindustrialization: the characteristics of the evolving new industrial structure had little in common with the structure that marked the pre-transition period.

– Secondly, the relative prices of industrial output and services underwent a radical change. The difference between changes in output shares at current and constant prices is a clear indication of the magnitude of relative price changes (industry: -7.3; services +7.2). This indicates that services achieved their 'emancipation' via significant increases in their relative prices; a process facilitated by the differential increase in productivity in the respective sectors. Thus, the so-called 'Balassa-Samuelson effect'[7], which also has a bearing on movements of the real exchange rate (an issue to which we return in section 2.3.) can be seen to have worked rather powerfully in Hungary during the 1990s.

Developments affecting overall productivity are summarized below. For the sake of simplicity, branches have been aggregated into two broad sectors: one supplying traded goods and the other supplying non-traded items (services).[8]

Table 4 presents changes in output, employment, and productivity relative to 1992 in the traded and non-traded goods sectors, as well as for both sectors as a whole.

Table 4.

The cumulative change in value-added, employment and productivity in the traded and non-traded goods sectors

(1992 = 100)

									Annual growth rate (per cent)	
	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	1992-1998	1992-2000
GDP – traded	100.4	104.9	111.2	114.9	125.2	133.3	141.4	151.5	4.9	5.3
GDP – non-traded	100.7	104.8	102.8	104.4	107.1	111.1	114.8	119.2	1.8	2.2
GDP – total	100.6	104.8	105.4	107.7	112.8	118.0	123.1	129.3	2.8	3.3
Employment – traded	85.7	81.5	76.2	76.1	76.2	78.4	78.5	76.6	-4.0	-3.3
Employment – non-traded	99.4	99.1	99.8	98.5	98.4	99.0	103.7	106.6	-0.2	0.8
Employment – total	93.7	91.9	90.1	89.4	89.3	90.6	93.4	94.3	-1.6	-0.7
Productivity – traded	117.1	128.7	145.9	151.0	164.2	170.0	180.3	197.8	9.2	8.9
Productivity – non-traded	101.3	105.7	103.0	106.0	108.8	112.2	110.7	111.8	1.9	1.4
Productivity – total	107.3	114.1	117.0	120.6	126.3	130.3	131.9	137.1	4.5	4.0

Source: Own calculations based on CSO data.

Since 1994, output in the traded-goods sector has increased continuously; with the exception of one year (1995), the non-traded goods sector has shown a continuous increase as well. This exception indicates that the stabilization programme of 1995 did not just involve a change in relative prices, income shares and relative output, but it also incurred a downward adjustment in output in the non-tradable goods sector.

7 See Balassa (1964) and Samuelson (1964).

8 Industry and agriculture are included in the traded goods sector, and all other branches in the not-traded sector. Of course, this is a simplification since agricultural output is 'semi-tradable', while several types of services are internationally traded (e.g., by travel). This categorization serves as a rough approximation.

In the period 1992-2000, total value-added increased by 3.3 % per annum (by 2.8 % in the period 1992-1998); value-added in the traded goods sector rose by 5.3 % (4.9 %); and in the non-traded sector by 2.2 % (1.8 %). Up until 1997, total employment showed a continuous, albeit gradually slower decline (by almost 10.5 %), whereafter it began to increase gradually. *The loss in employment was primarily due to the major fall in the traded goods sector.* In the other composite sector, the number of employed persons did not change significantly until 1998, whereafter it started to increase rather rapidly. As a result of these developments, by 2000 labour productivity in all sectors was 37 % higher than in 1992: it doubled in the traded goods sector, yet increased by a mere 12 % in the non-traded goods sector. The divergence in productivity growth was the result of different changes in both output and employment in the two sectors. However, in order to establish the relative importance of those factors, we made a very simple calculation.

First, we calculated the contribution of output and employment growth in the traded and non-traded goods sector, respectively, to the change in total output and employment. Then, we took the differences in the respective contributions of output and employment growth as an approximation of contributions to total labour productivity growth.[9]

Table 5 shows the contributions of changes in output and employment in the traded and non-traded sectors to total productivity growth in terms of both percentage points ('absolute contributions') and per cent ('relative contributions').

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[9] Formally: $(\Delta X^T/X_0 + \Delta X^{NT}/X_0) - (\Delta L^T/L_0 + \Delta L^{NT}/L_0) \approx P^* = [(\Delta X/X_0+1)/(\Delta L/L_0+1) - 1]$, where X is output (at constant prices), L is employment, P is labour productivity (=X/L); Δ and '*', respectively, indicate an absolute and relative change, T and NT (upper) indices, respectively, are the indicators of the traded and non-traded goods sectors; characters without upper-case indices refer to the economy as a whole. The lower-case index '*0*' refers to the base period. We stress that this is not an exact formulation of the respective relationships (We omitted the 'correction term' linking first differences to growth rates). However, the empirical importance of the correction term is negligible: the cumulative difference between the total growth rate of productivity calculated from the right-hand side and the left-hand side is only 2 percentage points for the period 1992-2000 (35 vs. 37 percent; 0.2 percentage points per year). Therefore, we have used the formula on the right-hand side to decompose the components of productivity growth in the period 1992-2000.

Table 5.

The contribution to total productivity growth of changes in output and employment in the traded and non-traded goods sectors, 1992-2000

(percentage points and per cent)

	T	NT	Σ
		percentage points	
X	16	13	29
L	-10	4	-6
P	26	9	35
		Per cent	
X	46%	37%	83%
L	-29%	11%	-17%
P	74%	26%	100%

Notations: T – traded goods; NT – non-traded goods; X –output; L – employment; P – labour productivity.

Source: Calculations based on CSO data.

The increase in productivity in the tradable sector contributed to growth in overall productivity (roughly 35 %) by about three-fourths (26 percentage points); the productivity increase in the non-tradable sector contributed about one-fourth (9 percentage points). In the tradable sector, the decline in employment played a very significant role in expanding productivity in that sector; its contribution to total productivity growth was almost 30 % (10 percentage points). In the non-traded goods sector, employment increased, contributing -11 % (-4 percentage points) to total productivity growth.

Overall, the increase in total output and the loss in total employment, contributed to the increase in productivity by 83 % (about 29 percentage points) and 17 % (6 percentage points), respectively. Thus, over the period as a whole, the non-traded sector could make up for about one-third of the employment loss in the traded goods sector. This development, however, is solely due to changes in 1999-2000 with the onset of employment growth.

2.3 Real exchange rate changes

Having reviewed developments *affecting* Hungary's international competitiveness, viz. productivity-growth, we now turn to indicators *reflecting* actual changes in the price and cost competitiveness of the economy, viz. real exchange rate (RER) indices. RER-indices are meant to express the net effect of changes on three factors: the home country's price/cost levels, the exchange rate and the trading partners' price/cost levels.

Before presenting the figures, attention is drawn to the policy environment governing nominal exchange rate changes on the one hand, and certain data-related problems on the other. As for the first issue, three distinctly different exchange rate regimes were applied over the period 1989-2001. Up until March 1995 a 'fixed, but adjustable' exchange rate system was the rule; in the period March 1995-May 2001, the policy of a crawling peg with a narrow band

was pursued; since spring 2001, a floating rate with a +/– 15 % band has been in force. Until the band was widened, the domestic currency depreciated in nominal terms (inflation, albeit at a declining rate, was, and still is, above that of Hungary's trading partners). However, following the recent change in the exchange rate regime, the HUF has appreciated in nominal terms; this, as we shall see, has led to significant real appreciation.

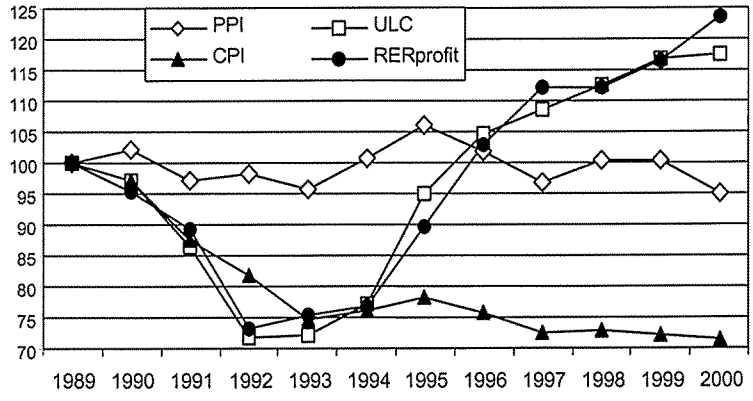
As for the data-related problems, we have two sets of data on RER-changes from the National Bank of Hungary (NBH): one is based on earlier issues of the NBH Annual Report (the series lapsed in 2000), the other one provides more recent figures, yet has different time spans and is not entirely compatible with the longer series. Given the importance of obtaining as clear a view as possible of recent changes in competitiveness when judging the country's economic prospects, both series are presented; however, attention is called to the fact that the two sets do not bear exactly the same implications.

The notion underlying Figure 7 below is that there is no such thing as *the* real exchange rate. There are several RER-indicators, of which four have been selected. The first two are based on relative price indices (CPI and PPI relative to the weighted average of partner countries' CPI and PPI, adjusted for the change in the *nominal* effective exchange rate). The third is based on relative unit labour costs, ULC (i.e., the relative ratio of gross labour costs per employed persons to value-added per employed person). The fourth is a 'hybrid' indicator: the ratio of the RER based on PPI to that based on ULC. It can be shown that the latter corresponds to the relative ratio of the producers' real wage to productivity; under certain assumptions, this is an indication of relative profitability.[10]

Figure 7.

Indicators of the real effective exchange rate[1)]

(1989=100)



Note: [1)] A drop indicates real appreciation.

Source: NBH (Annual Reports).

[10] For details on the RER based on relative profitability, see e.g., Lipschitz, L. and McDonald (1993).

The first point to make is that Figure 7 shows the path of various RER indices, but nothing definite is known about the 'correct' level/path of those indicators. Hence, simple observations alone cannot indicate whether a change in a certain direction was economically justified (put loosely, whether it moved towards equilibrium). This can only be inferred from other pieces of information.

The second point is that while the behaviour of indices based on relative prices is relatively consistent, RER indices based on ULC and relative profitability display enormous swings. The RER based on CPI shows an almost continuous and significant real appreciation (with a temporary reversal in 1994-1996); that based on PPI, however, displays no discernible any trend (even though it also includes the cycle of 1994-1996). The variance in the longer-run behaviour of the two types of RER can be explained in part by real factors and in part by policy measures. The PPI includes traded goods, the domestic prices of which – in a very open economy after complete trade liberalization – are strongly affected by foreign prices for similar goods and the nominal exchange rate. Hence, the RER based on PPI does not contain much information on changes in a country's international competitiveness.

Since it includes the prices of non-traded goods with a large weight, the RER index based on CPI could be a better indicator of excessive (economically unjustified) changes in the real exchange rate. However, in Hungary, as in other transition economies, the RER index based on CPI, as well as its difference relative to that based on PPI, was influenced by two major factors unrelated to international competitiveness: (a) the gradual removal of subsidies and administrative controls on consumer prices, an ongoing process; and (b) the Balassa-Samuelson effect (see also section 2.2.). The latter involves a differential in the growth rate in the productivity of sectors supplying traded/non-traded goods and an equilibrium real appreciation of the RER based on CPI.[11] This factor has been of relevance to Hungary since 1996.

One is thus left with RER indices based on ULC and relative profitability: indices which displayed major movements in the period under review. The two indices generally moved together, as the RER based on PPI did not change significantly. In the period 1989-1993, according to the RERs based on ULC and relative profitability real appreciation was massive (almost 40 % and 35 %, respectively) and certainly excessive. However, a very sharp reversal in the latter two RER indices was to be observed after 1993. A similar reversal was also to be seen in the RER indices based on relative price indices: adjustments to correct the overshooting (excessive real appreciation) were introduced in 1994 as borne out by all real exchange rate indicators. It is also clear that the stabilization package in 1995 simply reinforced adjustments to the RER that had been initiated earlier, but had proven insufficient

[11] See e.g, Halpern –Wyplosz (1997) and ECE (2001), Chapter 6, on its relevance to the Balassa-Samuelson effect for the transition economies.

to offset the negative effects that ultimately led to the deterioration in the trade balance shown in Figure 2.

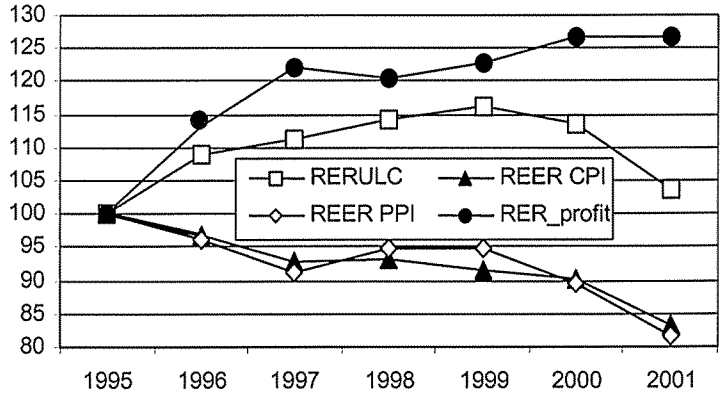
Finally, it should be noted that since 1994, the real exchange rate based on ULC (similarly to the one based on relative profits) has been depreciating almost continuously. It is quite possible that just as real appreciation in the period 1989-1993 turned out to be excessive, the real depreciation in the period 1994-2000 may have also led to overshooting, albeit in the opposite direction. However, before rushing into judgment, we should also take a look at the other (more recent and shorter) time series.

Figure 8 shows a somewhat different picture of recent developments. According to these indicators, the depreciation in the RER index based on ULC was less significant, and the turnaround had already begun in 2000, prior to widening the band (and the corresponding nominal appreciation) in 2001. The fact that the (relative) profitability-based RER index showed no change in 2001 is not truly revealing from the point of view of competitiveness. Indeed, it may well be an indication of a rather *slow pass-through* of nominal exchange rate changes to those in domestic prices (see the sharp appreciation in RER PPI), rather than an indication of genuinely stable competitiveness based on relative profitability.

Figure 8.

Real effective exchange rate indices

(1995 = 100)



Source: NBH (RER database).

To sum up: simple observations of the past evolution of alternative RER-indices do not provide any clues as to the interpretation of recent changes in those indices. It is, therefore, too early to suggest whether these changes have a bearing on the prospects of Hungary enhancing its international competitiveness. It is particularly uncertain whether weakening

price/cost competitiveness is borne out by earlier improvements in that field on the one hand, and by favourable changes in non-price competitiveness on the other.[12]

3 An international comparison of Hungary's trade competitiveness in the manufacturing sector

In the following section, the perspective of our analysis shifts in two respects: (a) *we focus on the manufacturing industry*, the most important sector from the point of view of trade competitiveness; and (b) *we extend the scope of our enquiry to other countries in Central and Eastern Europe* so as to be able to assess Hungary's performance in an international context.

3.1 Components of competitiveness

The four figures below (Figures 9-13) reveal different aspects/components of change in, and the level of, international competitiveness in the manufacturing sector in the countries of Central and Eastern Europe (CEECs). Figure 9 shows average *growth rates* in manufacturing productivity for 10 transition economies after the initial collapse of industrial output (generally after 1993). It should be noted that the productivity indices are based on gross output, rather than on value-added (i.e., net production, which would be more relevant), but comparable data on output were only available on a gross basis. As the figure shows, the increase in Hungary's manufacturing productivity in the period 1993-2000 significantly exceeded that of other CEECs: its performance (15.4 % annual growth) is one-third better than that of Estonia and Poland, ranked second and third best performers. The productivity increase in Hungary was less rapid, yet still impressive (11 % per annum), if output is measured in terms of *value-added*. As already mentioned, comparable data are not available for the other countries; therefore, we cannot assess what effect an alternative interpretation of productivity would have on the relative performance of the countries compared in Figure 6.[13]

Figure 10 presents the results of estimates on labour productivity *levels* (gross production per employee) for the manufacturing industry in CEECs and, as a benchmark, for Austria. In order to permit a comparison, national currencies were converted into ECU with purchasing power parities (PPP). The first data set (black bars, PPP_GDP) is drawn from national productivity figures converted into a common currency unit with 1996 purchasing power

[12] For want of space, we cannot treat issues related to non-price/cost (i.e., 'qualitative') competitiveness in detail; we only refer to results of our former work in this field, according to which Hungary's qualitative trade competitiveness improved significantly during the second half of the 1990s. (See Oblath–Pula–Szilágyi, 2000).

[13] Gács (2002) compared the cumulative difference between the growth of gross output and gross value-added in total manufacturing for the period 1997-2000. He reports the largest difference for Hungary (33 percentage points); the next is the Czech Republic with 17 % points, followed by Slovakia (7 % points) and Poland (6 % points). This implies that productivity comparisons based on gross output should be treated with circumspection.

parities for the whole GDP.[14] Conversion along these lines yields higher productivity estimates for the candidate countries. In the second data set, the conversion factor used is PPP for gross fixed capital formation in 1996 (grey bars, PPP_GCF), where the price levels in the candidate countries are relatively high.[15] This manner of conversion thus yields lower productivity estimates for the candidate countries.

Using either of the methods, the findings show Hungary to be the best performer among the countries compared, attaining 72.8 % and 45.3 %, respectively, of the 1999 Austrian productivity level in 2000. Productivity levels in the three countries behind Hungary were about one third lower relative to Austria (according to the GDP-based PPP). This is especially surprising in the case of Slovenia (which has a substantially higher per capita GDP than Hungary) and the Czech Republic (a country with a traditionally highly developed manufacturing industry). The productivity gap (relative to Austria) is remarkably wide in comparison to the Baltic States, Bulgaria and Romania. According to the second methodology, Hungary's advantage compared to the countries of Central Europe is somewhat smaller, yet larger compared to the Baltic States, Bulgaria and Romania. (An alternative calculation based on branch-specific unit-value ratios, which compared prices of representative products, yielded similar results for Hungary, Poland, the Czech Republic relative to Germany. In 1996 the level of productivity in Hungary was 41 % that of Germany; the corresponding ratios for the Czech Republic (37 %) and Poland (34 %) were lower than those for Hungary. (These are the results of a joint research project undertaken by the WIIW and University of Groningen. See Monnikhof and van Ark, 2000).

Although productivity is an important *ingredient* in international cost-competitiveness, the latter also depends on domestic costs – in particular *labour* costs – and the nominal exchange rate. Figure 11 shows that labour costs (defined as gross wages, including indirect wage costs, per employed person in EUR at current exchange rates) were rather low in the ten countries in 1999/2000 relative to the Austrian level. Even Slovenia, with the highest labour costs in the group, attained only one-third of the level in Austria; the respective ratio in Hungary was about 14 %. Wage costs in the Baltic countries, and especially in Bulgaria and Romania, were even lower.

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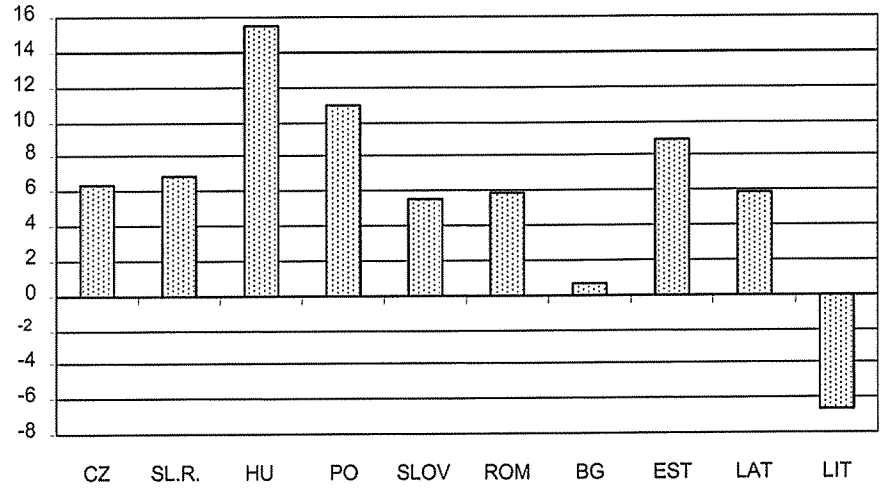
[14] Purchasing power parities were adopted from the ECP 1996 – see Eurostat-OECD (1999).

[15] This follows from the 'static' version of the Balassa – Samuelson (B-S) hypothesis referred to above.

Figure 9.

Productivity: growth rates in the 1990s[1)]

(in per cent)

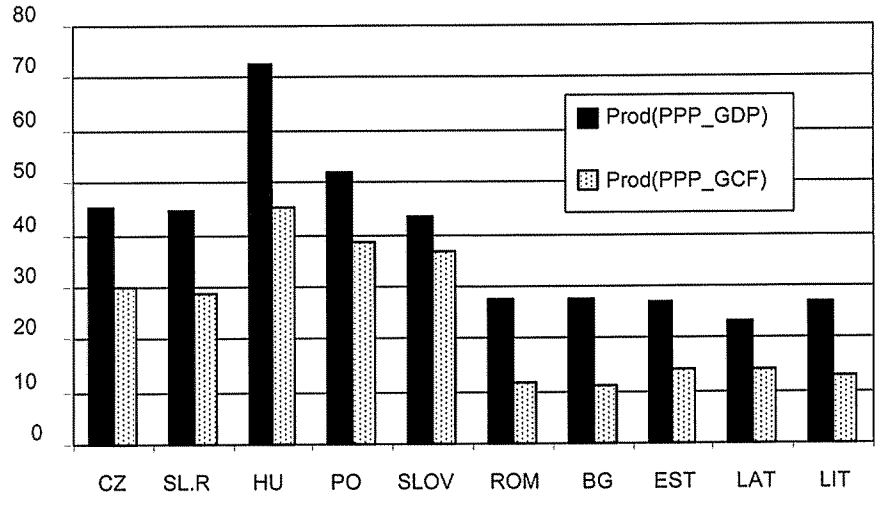


Note: [1)] 1993-2000, except for BG (1997-2000), EST (1995-1999), LAT (1994-1999); LIT (93-98).

Figure 10.

Productivity: levels in 2000/1999 compared at PPPs[1)]

(Austria = 100)

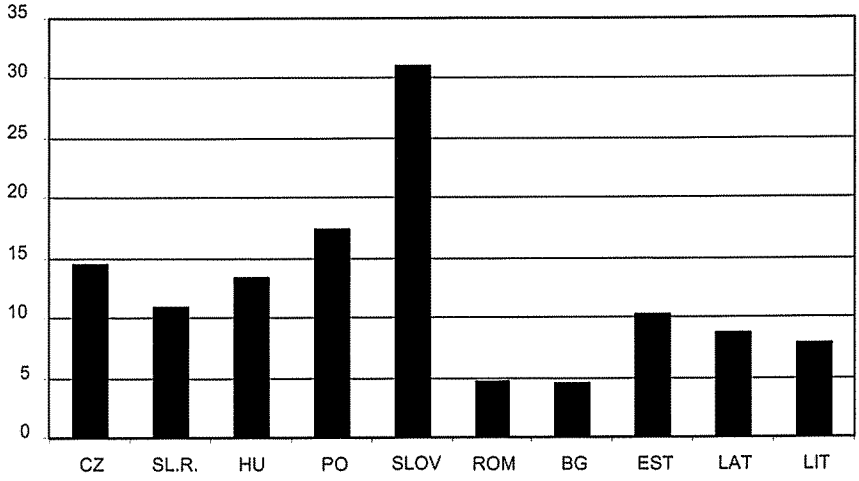


Note: 1) PPP for GDP and GCF: purchasing power parity for GDP and gross capital formation, respectively.

Figure 11.

Nominal labour costs in 1999/2000[1)]

(Austria=100)

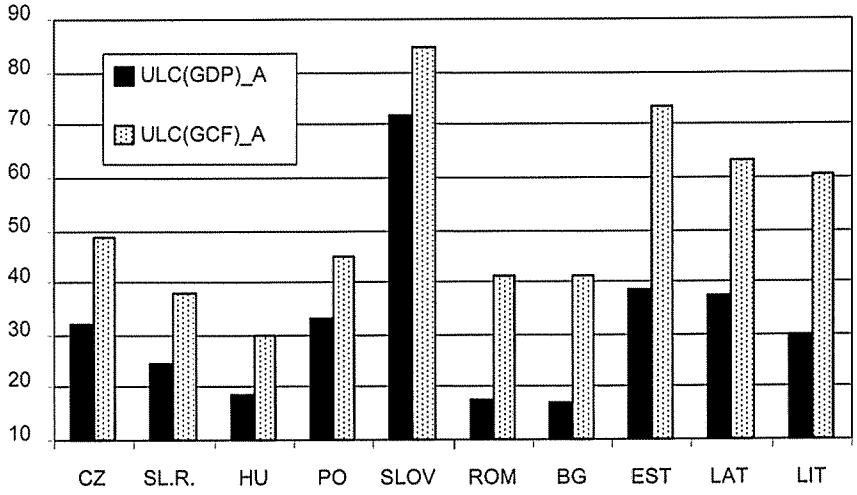


Note: [1)] Converted at current exchange rates.

Figure 12.

Unit labour costs in 1999/2000

(Austria = 100)



Source (Figures 9-12): WIIW Database.

The net effect of the two factors discussed above – productivity and labour costs – is revealed by the indicators for *unit labour costs* (ULCs – labour costs per unit of output) relative to Austria, as shown in Figure 12. The figure displays two indicators for each country; they differ from one another owing to the difference in the PPP conversion factor previously considered in Figure 10 (GDP-based, versus gross fixed capital formation, GCF-based). (The CEEC ULCs for 2000 are compared to the Austrian ULCs for 1999.) The results are highly favourable for Hungary; its ULC in manufacturing was among the lowest of the 10 countries. In the GDP-based ULC comparison, only Bulgaria and Romania had slightly lower unit labour costs (17 %) than Hungary (19 %) relative to Austria. According to the ULC comparison based on gross fixed capital formation, Hungary's position was even more advantageous. Its relative position (30 %) was considerably lower (i.e. better) than that of the second best performing country, Slovakia (38 %), and the next best thereafter, Bulgaria (41 %).

We should emphasize that in comparing ULC levels in CEECs relative to Austria, we consider the comparisons based on GCF-PPPs to be the more relevant indicators. However, it should also be pointed out that Hungary's position in terms of ULC may have deteriorated substantially since 2000, the last year of comparison. First, as already mentioned, the forint has continued to appreciate appreciably since May 2001 (when the intervention band was widened to +- 15 % from +- 2.25 %); secondly, wages rose rapidly in 2001 and have continued to do so in 2002. We shall return to these issues in the final section of this paper.

3.2 Hungary's relative trade position in EU markets

Having reviewed some of the factors contributing to international competitiveness, we now turn to their *revealed effects*. While productivity and unit labour costs provide important insight into the efficiency of the production process and related costs, it remains to be known whether the market appreciates the commodities leaving the production process. Apart from cost efficiency, foreign trade performance also reflects marketing efficiency and product quality. This holds even more true for a small open economy such as Hungary than for economies with large domestic markets.

Table 6.

EU-15 manufacturing industry imports from CEECs

(ECU million and growth in per cent)

	1995	1996	1997	1998	1999	2000	2000/95 growth in %
Bulgaria	1678.3	1594.8	1940.2	2095.0	2098.7	2910.6	73.4
Czech Republic	8318.1	9105.8	10989.1	13898.9	16022.8	20575.8	147.4
Slovak Republic	2977.9	3297.1	3845.9	5230.2	5797.4	6761.5	127.1
Hungary	7088.7	8215.9	11007.1	13790.6	16709.6	20978.1	195.9
Poland	10891.5	10992.4	12771.9	14763.4	16238.9	21686.3	99.1
Romania	3263.8	3488.6	4297.0	4990.7	5534.3	7395.2	126.6
Slovenia	4182.8	4208.2	4596.0	5131.6	5221.7	6071.8	45.2
Estonia	780.0	979.3	1337.0	1537.6	1664.6	2891.9	270.8
Latvia	868.3	967.5	1106.0	1160.4	1207.0	1630.5	87.8
Lithuania	904.4	1028.4	1238.8	1334.2	1519.6	2065.9	128.4
CEEC (7)	38401.2	40902.8	49447.3	59900.2	67623.4	86379.3	124.9
CEEC (10)	40953.8	43878.0	53129.2	63932.4	72014.5	92967.7	127.0
USA	89583.7	97004.2	116927.5	128774.9	141204.2	174391.0	94.7
Japan	53427.6	51638.1	58438.2	63788.5	69354.0	83477.8	56.2
EU total[1]	429876.9	452127.6	521519.6	574191.6	631469.5	797284.0	85.5

Note: 1) Without intra-EU trade.

Source: Eurostat COMEXT database.

Table 6 shows the levels and growth rates of manufacturing imports for the EU-15 in the period 1995-2000. In those five years, total EU-15 manufacturing imports (without intra-EU trade) increased by 86 %. Imports from Japan rose at a lower rate (56 %), while imports from the USA (95 %) exceeded the growth rate for EU-15 external imports as a whole. The 10 CEECs registered an impressive growth record: an increase of 127 % or 41 percentage points higher than the growth of EU-15 external manufacturing imports as a whole. Within that group of ten countries variations were considerable. Manufacturing imports from Hungary (i.e., Hungarian exports to the EU-15) displayed the second highest growth rate (196 %) in the group. This was substantially higher (by 49 percentage points) than the growth rate of all ten countries combined. The title of 'best performer' goes to Estonia with an incredible manufacturing export growth rate of 271 % in the review period. Of the most important reference countries, the Czech Republic also achieved an impressive growth rate of 147 %, as did Poland (99 %), whereas Slovenia was substantially weaker (45 %).

The rapid export growth enjoyed by Hungarian manufactures was reflected in the spectacular increase in the country's market share in total EU-15 manufacturing imports (without intra- EU trade). Data in Table 7 indicate that Hungary's market share in the EU-15 external imports of manufacturing products rose from 1.65 % in 1995 to 2.63 % in 2000, ranking second highest after Poland (2.72 %) among the ten candidate countries. Alone the *increment* in the market share of close to 1 percentage point over five years exceeded the *whole* market share for 2000 of either Bulgaria, the Slovak Republic, Romania or Slovenia and was greater than the whole market share of the three Baltic States combined. In 2000 Hungary's market share in manufactures of 2.63 % accounted for nearly one quarter of the

ten candidate countries' combined manufacturing market share in the EU-15. It corresponded exactly to one quarter of Japan's manufacturing market share and to 12 % of the US share (see Table 7).

Table 7.

CEEC market shares of the EU-15 manufacturing industry imports

(without intra-EU trade, in per cent)

	1995	1996	1997	1998	1999	2000
Bulgaria	0.39	0.35	0.37	0.36	0.33	0.37
Czech Republic	1.94	2.01	2.11	2.42	2.54	2.58
Slovak Republic	0.69	0.73	0.74	0.91	0.92	0.85
Hungary	1.65	1.82	2.11	2.40	2.65	2.63
Poland	2.53	2.43	2.45	2.57	2.57	2.72
Romania	0.76	0.77	0.82	0.87	0.88	0.93
Slovenia	0.97	0.93	0.88	0.89	0.83	0.76
Estonia	0.18	0.22	0.26	0.27	0.26	0.36
Latvia	0.20	0.21	0.21	0.20	0.19	0.20
Lithuania	0.21	0.23	0.24	0.23	0.24	0.26
CEEC (7)	8.93	9.05	9.48	10.43	10.71	10.83
CEEC (10)	9.53	9.70	10.19	11.13	11.40	11.66
USA	20.84	21.46	22.42	22.43	22.36	21.87
Japan	12.43	11.42	11.21	11.11	10.98	10.47

Source: UN, Eurostat COMEXT database, WIIW calculations.

It is interesting to compare the level and growth of the CEEC-10 manufacturing exports to the EU-15 with their manufacturing imports on the same terms (see Table 8). For the ten candidate countries combined, their export (127 %) and import growth rates (113 %) did not differ greatly in the review period. In the case of Hungary, however, there is a difference; the growth in manufacturing exports (196 %) to the EU-15 was 55 percentage points higher than the import growth rate (141 %). Only two other countries, Estonia and the Czech Republic, reported such a significant difference in favour of manufacturing export growth.

Table 8.

EU-15 manufacturing industry exports to CEECs

(ECU million and growth in per cent)

	1995	1996	1997	1998	1999	2000	2000/95 growth in %
Bulgaria	1891.4	1567.7	1674.1	2225.3	2479.8	2988.0	58.0
Czech Republic	10846.3	13000.1	14616.8	15853.8	17177.2	22260.8	105.2
Slovak Republic	2998.8	3754.8	4446.4	5347.3	5216.7	6159.9	105.4
Hungary	8191.7	9341.4	11819.0	14317.1	16021.8	19729.5	140.8
Poland	13906.1	17794.4	22634.4	25526.9	26641.8	30916.7	122.3
Romania	3559.0	4156.7	4708.8	5955.7	5950.0	8249.6	131.8
Slovenia	4902.1	5071.0	5922.2	6317.8	6498.6	7569.2	54.4
Estonia	1292.8	1605.9	2289.3	2578.0	2300.7	3060.4	136.7
Latvia	864.9	986.0	1416.2	1663.1	1546.6	1859.8	115.0
Lithuania	934.3	1333.1	1971.0	2182.6	1922.9	2298.9	146.0
CEEC (7)	46295.5	54686.2	65821.9	75543.8	79985.9	97873.6	111.4
CEEC (10)	49387.6	58611.2	71498.5	81967.5	85756.1	105092.7	112.8
USA	93923.6	104102.5	128291.2	146702.1	167400.4	209315.4	122.9
Japan	30753.5	33269.1	33216.0	28869.6	32778.6	41213.4	34.0
EU total	522077.2	572636.4	649658.6	661128.6	688245.4	845046.1	61.9

Source: Eurostat.

Hungary's rapidly improving trade balance in the review period followed on the diverging export and import growth rates displayed by the country's manufacturing industry (See Table 9). For the CEEC-10 combined, the manufactures trade balance was deep in the red; it worsened appreciably from ECU 8.4 billion in 1995 to ECU 18.4 billion in 1997, whereafter things started to improve and the deficit dropped to ECU 12.1 billion by 2000. In the case of Hungary, whereas the trade deficit with the EU-15 in manufactures had still increased slightly in 1996 compared to the previous year, it had gone on to decrease rapidly over the four years thereafter before registering a surplus by 1999. In the period 1996-2000, the manufactures trade balance continued to improve by more than ECU 2.3 billion. Apart from Hungary, the Slovak Republic was the only country among the ten candidate countries to register a shift from a manufacturing trade balance deficit to a surplus in the period under review (Estonia also displayed considerable improvement.)

Table 9.

CEEC trade balances in manufacturing industry trade with the EU-15

(ECU million)

	1995	1996	1997	1998	1999	2000
Bulgaria	-213.1	27.0	266.1	-130.3	-381.2	-77.4
Czech Republic	-2528.2	-3894.3	-3627.7	-1954.8	-1154.3	-1685.0
Slovak Republic	-20.9	-457.7	-600.5	-117.1	580.7	601.6
Hungary	-1102.9	-1125.5	-811.9	-526.6	687.8	1248.6
Poland	-3014.6	-6802.0	-9862.5	-10763.5	-10402.9	-9230.3
Romania	-295.2	-668.0	-411.8	-965.0	-415.7	-854.4
Slovenia	-719.3	-862.8	-1326.2	-1186.2	-1276.9	-1497.4
Estonia	-512.9	-626.6	-952.4	-1040.3	-636.1	-168.5
Latvia	3.3	-18.5	-310.2	-502.8	-339.6	-229.3
Lithuania	-29.9	-304.7	-732.2	-848.4	-403.4	-232.9
CEEC (7)	-7894.3	-13783.4	-16374.6	-15643.6	-12362.5	-11494.3
CEEC (10)	-8433.7	-14733.2	-18369.3	-18035.1	-13741.6	-12125.0
USA	4339.9	7098.4	11363.7	17927.2	26196.2	34924.4
Japan	-22674.1	-18368.9	-25222.2	-34918.9	-36575.4	-42264.5
EU total	92200.3	120508.8	128139.0	86937.0	56775.9	56775.9

Source: UN, Eurostat COMEXT database, WIIW calculations.

Data in Table 10 show that the *combined* growth of the ten candidate countries' manufacturing exports is attributable solely to two factors. First, one third of the growth is attributable to the effect of overall EU-15 demand for manufactures and two thirds are attributable to the competitive gains that the countries attained to the detriment of other exporters to the EU-15. Secondly, the structural component was negative for both the ten candidate countries as a group and each individual member of the group. In the case of Hungary, competitive gain was responsible for the bulk of export growth (78 %); the overall demand effect was less than for the group as a whole and the structural effect was slightly negative. Over the four years, none of the 10 candidate countries, except for Estonia, managed to secure competitive gains higher than those attained by Hungary. Lithuania, the Czech Republic and Slovakia had nearly as good a record in competitive gains as Hungary (a share of over 70 % for the competitive gain component).

Table 10.

CEEC-10 manufacturing exports to the EU-15: results of the 'shift-and-share' analysis

	Exports (ECU million)					Export increase	Shift-and-share analysis (ECU million)			Contribution of components to the increase in exports (in per cent)[1]		
	1995	1996	1997	1998	2000	1995-2000	Component 1 (Market growth)	Component 2 (Specialization)	Component 3 (Competitiveness)	Component 1	Component 2	Component 3
Bulgaria	1678.3	1594.8	1940.2	2095.0	2910.6	1232.3	773.4	-174.4	639.5	62.8	-14.2	**51,9**
Czech Rep.	8318.1	9105.8	10989.1	13898.9	20575.8	12257.7	3833.2	-469.5	8894.0	31.3	-3.8	**72,6**
Hungary	7088.7	8215.9	11007.1	13790.6	20978.1	13889.4	3266.7	-234.9	10857.6	23.5	-1.7	**78,2**
Poland	10891.5	10992.4	12771.9	14763.4	21686.3	10794.8	5019.1	-634.3	6410.0	46.5	-5.9	**59,4**
Romania	3263.8	3488.6	4297.0	4990.7	7395.2	4131.4	1504.0	-186.9	2814.8	36.4	-4.5	**68,1**
Slovak Rep.	2977.9	3297.1	3845.9	5230.2	6761.5	3783.6	1372.3	-171.1	2582.5	36.3	-4.5	**68,3**
Slovenia	4182.8	4208.2	4596.0	5131.6	6071.8	1889.0	1927.5	-141.0	102.4	102.0	-7.5	**5,4**
Estonia	780.0	979.3	1337.0	1537.6	2891.9	2111.9	359.4	-49.5	1802.0	17.0	-2.3	**85,3**
Latvia	868.3	967.5	1106.0	1160.4	1630.5	762.2	400.1	-39.0	399.9	52.5	-5.1	**52,5**
Lithuania	904.4	1028.4	1238.8	1334.2	2065.9	1161.5	416.8	-73.6	818.3	35.9	-6.3	**70,5**
Total	40953.8	43878.0	53129.2	63932.4	92967.6	52013.8	18872.5	-2174.1	35320.9	36.3	-4.2	**67,9**

Note: 1) The sum of the components may differ from 100 owing to rounding.

Source: Eurostat COMEXT database and WIIW calculations.

4 Sectoral aspects of Hungary' competitiveness and trade performance

In the following section, we wish to go beyond the general features of manufacturing competitiveness and address some distinctive developments at the sub-sectoral level. We shall follow the same order of analysis as in the foregoing sections. After reviewing developments in productivity and unit labour costs, we turn to changes in sectoral trade balances and market shares.

4.1 Productivity and unit labour costs

Table 11 shows the development of manufacturing productivity by 2-digit NACE industries in 1993-2000. The comparison of the sector indicators across countries refers to a specialization pattern peculiar to Hungary. In none of the other candidate countries was the productivity growth so one-sided or concentrated. Productivity grew much above the average in two of the 14 industries in manufacturing, (*electrical and optical equipment* and *transport equipment*); all other industries recorded below-average performance. That notwithstanding, productivity grew appreciably in each industry, except *coke, refined petroleum products & nuclear fuels* and *chemicals, chemical products and man-made fibres* where only modest productivity growth was registered in the period under review.[16]

[16] We must point out here that the expressions "winners" and "losers" in the title of Table 11 are somewhat misleading, especially in the case of Hungary, where productivity increased at a formidable pace in several of the "loser" industries. Only their relative position to the electrical an optical equipment and transport equipment with extreme high productivity growth rates renders them to this apparently unfavourable ranking. We are grateful for J. Gács for his comment on this issue.

Table 11.

Relative productivity gains, sub-sectoral winners and losers

(average annual change in % for total manufacturing (D) and relative gains in percentage points)

	1997-2000	1993-2000	1993-2000	1993-2000	1993-2000	1993-2000	1993-2000	1995-1999	1994-1999	1993-1998
	BG	CZ	HU	PO	ROM	SL.R.	SLOV	EST	LAT	LIT
D	0.6	6.3	15.4	11.0	5.8	6.8	5.5	8.9	5.8	-6.6
DA	0.9	-4.4	-7.9	-4.2	-3.4	-4.6	-2.6	-7.6	-3.6	-0.5
DB	-5.0	-4.7	-7.7	-4.1	-2.0	-11.7	-0.2	6.6	0.7	-7.0
DC	-5.7	-10.8	-8.4	-1.8	-1.1	-2.5	-6.5	5.5	-10.4	-4.9
DD	8.3	-3.7	-6.9	-4.1	-7.4	-9.0	-5.7	12.4	-2.2	-9.8
DE	-1.5	0.5	-2.4	0.8	0.3	0.9	-6.6	-2.1	-0.8	-23.6
DF	-7.5	-2.6	-9.9	-5.3	-2.3	4.5	-23.0	.	.	1.0
DG	-2.9	-0.8	-10.8	-1.5	-3.1	0.3	1.1	7.4	-10.6	6.1
DH	-0.3	0.6	-5.9	-1.1	-6.3	-3.3	-0.7	2.1	8.9	9.4
DI	4.5	-0.6	-5.3	1.1	0.9	-1.2	0.1	4.1	6.9	4.2
DJ	5.7	-3.7	-2.0	-0.3	0.7	-4.9	2.3	2.3	12.2	6.7
DK	5.2	2.0	-2.9	2.5	4.5	-0.2	-2.2	3.0	-8.3	-8.9
DL	7.4	9.9	18.9	6.3	11.0	2.1	6.8	9.3	5.1	12.1
DM	-0.1	4.5	16.2	9.5	6.8	20.4	4.2	0.3	-6.4	15.8
DN	9.9	0.9	-6.4	-1.5	9.0	-1.0	0.6	2.5	.	2.6

Note: Calculations of relative gains: DA(93-00) - D(93-00) = relative gain DA.

Source: WIIW Industrial Database.

Notations to Table 11:
DA: Food products; beverages and tobacco; DB: Textiles and textile products; DC: Leather and leather products; DD: Wood and wood products; DE: Pulp, paper & paper products; publishing & printing; DF: Coke, refined petroleum products & nuclear fuel; DG: Chemicals, chemical products and man-made fibres; DH: Rubber and plastic products; DI: Other non-metallic mineral products; DJ: Basic metals and fabricated metal products; DK: Machinery and equipment n.e.c.; DL: Electrical and optical equipment; DM: Manufacture of transport equipment; DN: Manufacturing n.e.c.

Table 12 and Figure 13 show the manner in which productivity levels in manufacturing industry in Hungary developed relative to Austria over the period 1992-2000. Table 12 shows comparative productivity levels based on PPP for GDP, while Figure 13 addresses the same features based on PPP for gross capital formation (GCF). It should be clear that neither presentation is based on actual (direct, industry-by-industry) comparisons. Both rely on national statistics relating to productivity levels, the only difference being the conversion factor for 'transforming' current price data into relative volume (productivity) figures. (In the benchmark year (1996), the ratio of the PPP for GDP to the PPP for GCG was 0.62, or – in other terms – the PPP for GCF was some 60 % higher than that for GDP as a whole.)

Table 12.

Hungarian productivity (at PPP for GDP), 1992-2000

(Austria 1999 = 100)

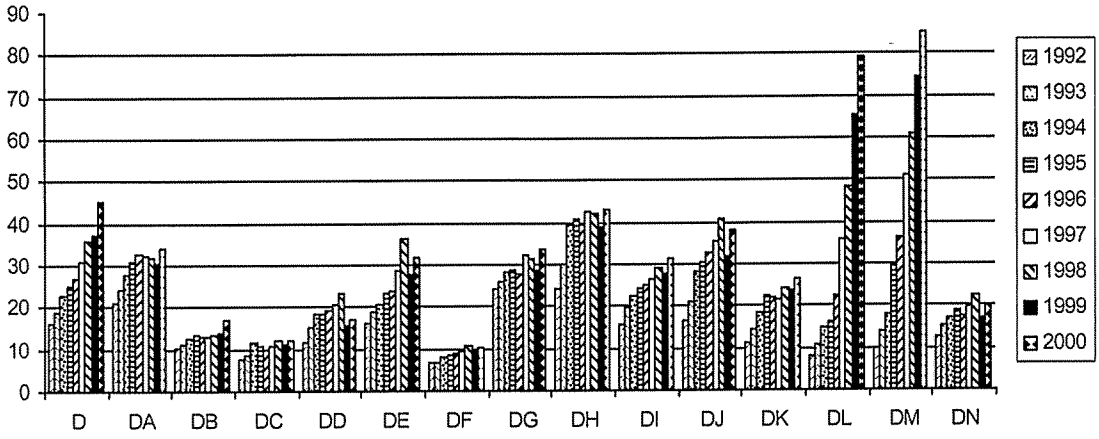
NACE		1992	1993	1994	1995	1996	1997	1998	1999	2000
D	Manufacturing total	25.8	30.4	36.5	40.5	43.2	49.9	57.4	60.0	72.8
DA	Food products; beverages and tobacco	34.1	38.7	44.6	49.5	52.5	52.0	51.4	48.7	54.6
DB	Textiles and textile products	16.3	18.3	20.1	21.3	21.0	20.9	21.5	22.4	27.3
DC	Leather and leather products	12.2	13.7	18.5	17.2	15.8	17.2	19.3	18.2	19.6
DD	Wood and wood products	19.0	24.3	29.3	29.4	30.9	32.8	37.3	25.4	27.1
DE	Pulp, paper & paper products; publishing & printing	26.0	30.3	33.0	37.5	38.1	45.9	58.4	44.9	50.8
DF	Coke, refined petroleum products & nuclear fuel	10.8	11.1	13.0	13.8	14.2	14.8	17.0	14.9	16.6
DG	Chemicals, chemical products and man-made fibres	39.0	41.6	45.6	45.9	44.7	52.1	50.2	46.2	53.8
DH	Rubber and plastic products	38.8	48.3	63.5	65.6	63.4	68.3	67.5	62.7	68.9
DI	Other non-metallic mineral products	25.0	31.3	36.1	38.7	40.4	42.1	46.5	44.9	50.7
DJ	Basic metals and fabricated metal products	26.7	33.9	45.3	49.2	52.3	57.0	65.3	50.9	61.1
DK	Machinery and equipment n.e.c.	18.2	23.2	29.5	35.7	35.5	34.3	38.8	37.9	42.3
DL	Electrical and optical equipment	12.9	17.0	23.9	26.2	36.0	57.8	77.5	104.7	127.6
DM	Transport equipment	15.6	22.1	28.9	47.2	58.0	82.0	97.8	119.6	136.5
DN	Manufacturing n.e.c.	20.1	24.5	27.0	30.2	28.3	31.7	35.9	27.1	32.5

Source: WIIW Industrial Database.

Figure 13.

Hungarian productivity (at PPP for GCF), 1992-2000

(Austria 1999 = 100)



Source: WIIW Industrial Database.

The catching-up process in the eight-year period was indeed astonishing, regardless which of the two versions presented above (Table 12 or Figure 13) is considered the more relevant.

If we accept the version shown in Table 12, the interpretation is as follows. The productivity of the manufacturing industry as a whole was equivalent to hardly more than a quarter of that of Austria in the first year of the comparison (1992). By 2000 it had attained 73 % of the Austrian level, reducing the difference by 47 percentage points in less than a decade. The

most dynamic catching-up process took place in the *electrical and optical equipment* and *transport equipment* industries, where by 1999 Hungarian productivity had already surpassed that of Austria, even though in the first year of comparison the gap between the two countries' productivity in those two industries was larger than in total manufacturing. By 2000 Hungary's productivity in those two industries was already about a third higher than that of Austria.

If we consider the second interpretation shown by Figure 13 (the more relevant one to our mind), the *scale* certainly changed (thus none of the Hungarian industries' productivity actually surpassed the level in Austria), yet the direction remained unchanged: all 14 industries started to catch up with Austrian productivity levels. Catching-up was minimal in the *leather and leather products, textile and textile products* and *coke, refined petroleum products & nuclear fuels.* The pace was modest in other manufactures such as *chemicals, chemical products and man-made fibres* and *wood and wood products.* In the remaining nine industries the pace was formidable.

Table 13a.

International comparison of ULCs in manufacturing industries

(year 2000, PPP96 for GDP, Austria 1999 = 100)

		BG	CZ	EST (1998)	*HU*	LAT (1999)	LIT (1998)	PO	ROM	SL.R.	SLOV
Manufacturing total	D	16.7	32.2	38.3	*18.5*	37.2	29.7	33.3	17.3	24.3	71.9
Food products; beverages and tobacco	DA	16.3	30.0	37.2	*29.0*	36.4	35.4	35.7	9.1	26.6	60.8
Textiles and textile products	DB	30.2	41.4	37.9	*39.8*	46.3	39.1	45.3	32.5	56.9	85.0
Leather and leather products	DC	32.5	85.3	53.8	*65.6*	86.8	40.3	54.3	30.6	50.6	128.1
Wood and wood products	DD	20.6	56.9	41.8	*38.2*	38.8	63.4	35.5	22.1	70.6	133.1
Pulp, paper & paper products; publishing & printing	DE	19.6	28.5	60.2	*25.8*	49.3	47.6	30.3	20.1	25.1	107.9
Coke, refined petroleum products & nuclear fuel	DF	19.9	22.1		*77.2*			60.2	23.6	20.0	297.6
Chemicals, chemical products and man-made fibres	DG	16.4	22.6		*32.6*	47.1	20.2	41.3	17.3	20.4	58.2
Rubber and plastic products	DH	14.4	27.4	23.8	*20.9*	20.7	34.6	24.2	18.1	23.3	59.9
Other non-metallic mineral products	DI	15.5	32.1	28.7	*26.1*	25.9	41.4	29.7	14.6	27.0	55.0
Basic metals and fabricated metal products	DJ	12.2	37.7	32.8	*21.4*	28.9	55.0	28.0	12.1	21.8	79.2
Machinery and equipment n.e.c.	DK	23.3	33.5	53.9	*29.7*	71.1	50.1	40.4	32.0	30.7	62.9
Electrical and optical equipment	DL	22.3	29.4	47.1	*9.7*	54.9	30.7	34.9	23.0	42.1	89.0
Transport equipment	DM	35.0	32.1	62.1	*11.8*	62.8	73.9	35.7	31.0	10.7	36.3
Manufacturing n.e.c.	DN	16.9	32.8		*36.6*	36.6	37.6	31.4	18.6	35.4	59.9

Source: WIIW estimates based on national statistics, OECD, EUROSTAT and UNIDO.

Table 13b.

International comparison of ULCs in manufacturing industries

(year 2000, PPP96 for gross capital formation, Austria 1999 = 100)

		BG	CZ	EST (1998)	*HU*	LAT (1999)	LIT (1998)	PO	ROM	SL.R.	SLOV
Manufacturing total	D	40.9	48.5	73.4	29.7	63.0	60.2	44.8	41.2	37.9	84.5
Food products; beverages and tobacco	DA	39.8	45.2	71.3	46.6	61.7	71.7	48.0	21.8	41.5	71.5
Textiles and textile products	DB	73.6	62.4	72.6	63.9	78.4	79.2	61.0	77.6	88.8	99.9
Leather and leather products	DC	79.3	128.6	103.2	105.4	147.1	81.7	73.0	73.0	79.0	150.6
Wood and wood products	DD	50.3	85.8	80.1	61.4	65.8	128.5	47.7	52.6	110.1	156.5
Pulp, paper & paper products; publishing & printing	DE	47.8	43.0	115.5	41.4	83.5	96.3	40.8	48.0	39.2	126.8
Coke, refined petroleum products & nuclear fuel	DF	48.6	33.3		124.0			81.0	56.2	31.2	349.8
Chemicals, chemical products and man-made fibres	DG	40.0	34.1		52.3	79.8	40.9	55.6	41.4	31.8	68.4
Rubber and plastic products	DH	35.0	41.3	45.7	33.6	35.0	70.0	32.6	43.1	36.4	70.4
Other non-metallic mineral products	DI	37.9	48.5	55.0	42.0	43.9	84.0	40.0	34.9	42.1	64.6
Basic metals and fabricated metal products	DJ	29.7	56.8	62.9	34.4	48.9	111.5	37.7	28.9	34.0	93.1
Machinery and equipment n.e.c.	DK	56.8	50.6	103.3	47.7	120.5	101.5	54.4	76.4	47.9	73.9
Electrical and optical equipment	DL	54.4	44.4	90.4	15.6	93.1	62.3	47.0	54.8	65.7	104.6
Transport equipment	DM	85.4	48.4	119.1	18.9	106.4	149.7	48.0	74.1	16.6	42.7
Manufacturing n.e.c.	DN	41.3	49.5		58.8	62.1	76.2	42.2	44.5	55.3	70.4

Source: WIIW estimates based on national statistics, OECD, EUROSTAT and UNIDO.

Consideration then shifts to the *level* of *unit labour costs* (in 2000) in manufacturing industries relative to Austria as compared to the other CEECs. Table 13a shows comparisons based on PPP for GDP, while Table 13b is based on PPP for GCF.

Here again, where the *levels* are concerned, it makes a great difference whether we accept the results based on PPP for GDP (Table 13a), or those corresponding to PPP for GCF (Table 13b). In the following brief overview, we refer to figures in Table 13a, but also cite the corresponding figures in Table 13b (in parentheses).

Analysing Hungarian ULCs by sector, it is no wonder that in the two industries with extremely rapid productivity growth the ULCs were also extremely low: 9.7 (15.6)% of the Austrian level in the production of *electrical and optical equipment* and 11.8 (18.9)% in *transport equipment*. Other industries registered higher ULCs than the manufacturing industry average. A relative good record – 20 to 30 % (35-60 %) of the Austrian level – was achieved in *food products and beverages*; *pulp, paper & paper products*; *publishing and printing*; *rubber and plastic products*; *other non metallic mineral products*; *basic metals and fabricated metal products* and *machinery and equipment n.e.c.* Of the 14 industries, two recorded substantially higher than average ULCs: *leather and leather products* and *coke and refined petroleum and nuclear fuels.*

4.2 Sectoral trade balances and market shares: industrial winners and losers

Overall trade balance indicators mask significant differences in terms of individual industry trade balances. Figure 14 provides information on sectoral balances in the manufacturing industry over the period 1995-2000.

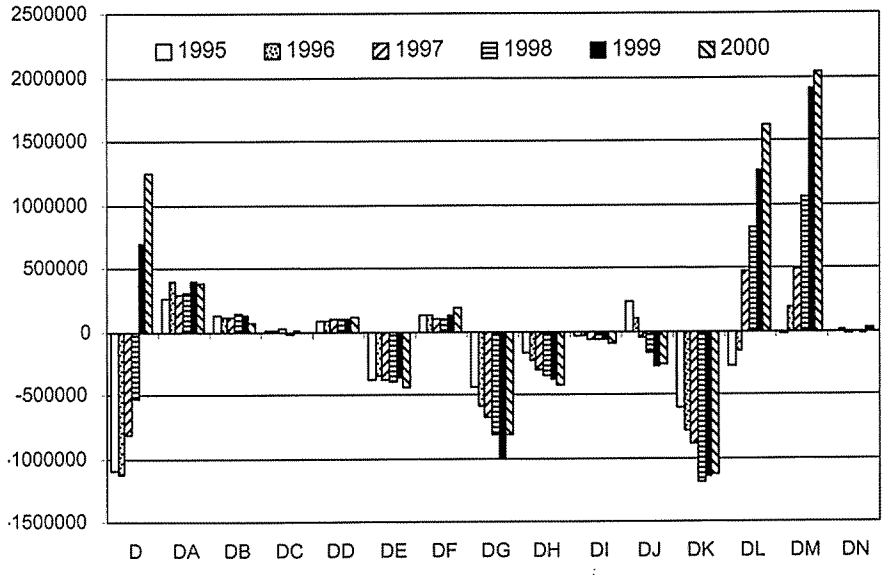
Data in Figure 14 reveal the existence of three distinct groups within the 14 industries. *Transport equipment* and *electrical and optical equipment* are those industries where the trade balance radically improved from year to year over the review period. *Chemicals, chemical products and man-made fibres, rubber and plastic products, basic metals and fabricated metal products* and *machinery and equipment n.e.c.* are those industries where the trade balance deteriorated continuously over the same period.[17] Within the latter group, the deterioration of the sectoral trade balance in *chemicals, chemical products and man-made fibres* and *machinery and equipment n.e.c.* bore much more weight than the other two industries. In the remaining eight industries, no clear trend is apparent where a change in direction in the sectoral trade balance is concerned.

The above data indicate that the marked specialization process in the transport vehicles and electronics sectors is linked to an albeit weak, yet still formidable 'de-specialization' process in chemicals and general engineering products.

Figure 14.

Hungary: sectoral trade balances with the EU, 1995-2000

(in 1000 EUR)



Source: WIIW Industrial Database.

[17] In the *machinery and equipment n.e.c.* industry 1999 and 2000 brought about a minimal improvement in the trade balance.

Finally, Table 14 attempts to give an indication (at the NACE-3 digit level) of the speed of structural change in Hungarian manufacturing industry exports in the period 1995-2000 The data are ranked according to the extent of competitive gains calculated in the framework of the above described shift-and-share analysis. *Motor vehicles* recorded the highest competitive gain in the period under review; that particular commodity group registered a remarkable market share of 11 % in EU-15 *motor vehicle* imports from all non-EU member countries world-wide. *Office machinery and computers* came second, while *TV, radio and recording apparatus* enjoyed the third highest competitive gain in the period under review. In all three commodity groups, annual average export growth rates were very high: 37 %, 89 % and 46 %, respectively. *TV, radio transmitters and apparatus for line telephony* registered the highest annual export growth rate. In the latter commodity group, exports more than doubled annually. Hungary attained a remarkable market share (8.1 %) in the EU-15 imports of *TV, radio and recording apparatus.*

At the other extreme, labour- and energy-intensive commodities were exported by losing industries, where competitive losses were recorded in terms of exports to the EU-15. The nature of the restructuring process is best illustrated by comparing the highest competitive gain [ECU 2,607 million] (*motor vehicles*) to the highest competitive loss [ECU 88 million] (*basic iron and steel, ferro-alloys*). The highest competitive loss was equivalent to no more than 3.4 % of the highest competitive gain in the period 1995-2000.

Table 14.

Hungary: winner and loser industry exports to the EU-15, 1995 - 2000

	NACE Rev.1	Exports 2000 ECU ***million***	*Average annual change in %*	***Competitive gain, 1995-2000, ECU million***	*Market share in the EU-15 2000 in %*
30 highest winners					
Motor vehicles	341	3844.5	37.4	2607.7	11.01
Office machinery and computers	300	2313.3	88.6	2165.6	3.25
TV, radio and recording apparatus	323	1850.0	45.5	1420.0	8.12
TV and radio transmitters, apparatus for line telephony	322	747.5	126.0	725.3	3.04
Parts and accessories for motor vehicles	343	896.1	39.9	643.5	6.21
Electronic valves and tubes, other electronic comp.	321	398.7	57.1	331.9	0.85
Electrical equipment n. e. c.	316	706.1	23.2	307.2	5.26
Electricity distribution and control apparatus	312	465.5	30.6	283.4	5.27
Basic chemicals	241	805.5	12.3	214.1	2.34
Instruments for measuring, checking, testing, navigating	332	237.5	47.6	187.3	1.50
Electric motors, generators and transformers	311	419.2	22.3	182.5	4.38
Isolated wire and cable	313	268.5	36.5	180.6	7.12
Other general purpose machinery	292	291.1	29.6	168.9	2.02
Domestic appliances n. e. c.	297	373.4	22.0	166.4	6.96
Rubber products	251	254.5	25.4	139.1	4.02
Furniture	361	338.9	19.4	117.5	3.26
Lighting equipment and electric lamps	315	377.6	16.7	111.0	10.65
Other special purpose machinery	295	273.7	18.6	103.4	1.71
Plastic products	252	247.9	17.8	90.4	2.21
Railway locomotives and rolling stock	352	84.0	58.0	70.3	6.95
Optical instruments and photographic equipment	334	86.5	48.9	68.4	1.10
Machinery for production, use of mech. power	291	242.3	15.1	67.3	1.35
Articles of paper and paperboard	212	92.4	37.9	65.7	4.26
Pulp, paper and paperboard	211	84.6	27.2	54.5	0.74
Other fabricated metal products	287	221.0	12.7	46.9	2.40
Basic precious and non-ferrous metals	274	484.2	7.6	44.1	1.25
Knitted and crocheted articles	177	141.1	16.7	43.2	1.93
Other textiles	175	62.7	28.2	40.0	1.68
Cutlery, tools and general hardware	286	78.1	19.2	31.7	1.30
10 largest losers					
Publishing	221	20.0	0.6	-4.8	0.71
Coke oven products	231	9.0	-5.1	-5.3	1.10
Tanning and dressing of leather	191	21.0	-2.4	-8.0	0.81
Tubes	272	47.1	1.6	-8.5	2.57
Builders' carpentry and joinery	203	50.9	3.3	-8.5	3.21
Refined petroleum and nuclear fuel	232	271.0	8.5	-13.7	1.33
Games and toys	365	34.1	0.8	-13.8	0.46
Other food products	158	26.2	-10.6	-23.7	0.67
Made-up textile articles	174	80.1	1.8	-27.3	1.66
Other wearing apparel and accessories	182	855.0	4.9	-69.3	2.10
Basic iron and steel, ferro-alloys (ECSC)	271	265.3	0.2	-88.1	2.61
Total		**20978.1**	**24.2**	**10857.6**	**2.63**

Source: WIIW Industrial Database.

5 Summary, conclusions and a rider

The objective of our paper was to present a broad review of the background, components, indicators and revealed effects of Hungary's trade competitiveness at the macroeconomic and sectoral levels. We aimed to describe and interpret those features of the Hungarian economy in two respects: first, in terms of their evolution during the nineties (in particular after 1995); and secondly, on the basis of an international comparison.

In common with all other transition economies, Hungary experienced a deep recession in the early years of the political and economic transformation. Unlike several other countries in the region, however, it underwent a serious stabilization crisis in the mid-1990s. Although stabilization incurred significant social costs (a palpable drop in real wages and consumption), the pattern of growth that evolved over the second half of the 1990s was characterized by a remarkable improvement in the country's international competitiveness attributable to a number of interrelated factors. Economic policy was clearly biased towards the growth of exports and investments vs. public and household consumption. While aiming at disinflation, monetary policy accorded high priority to maintaining a competitive exchange rate, while fiscal policy and autonomous developments in nominal wages also bolstered trade competitiveness. At the same time, the inflow of FDI was appreciable and contributed significantly to growth in fixed capital formation in the second half of the 1990s.

As a result of these factors, Hungary experienced considerable improvements in both the 'real' and the 'nominal' components of international competitiveness. First of all, labour productivity, particularly in manufacturing, grew at an outstanding rate, much more rapidly than in other transition economies (in the period 1993-2000, annual average growth in manufacturing productivity was 15 % in Hungary, 11 % in Poland and 6-7 % in the Czech Republic and Slovenia).[18] As for the 'nominal' side, labour costs expressed in foreign currency terms increased modestly in comparison with both other transition countries and gains in domestic productivity. As a consequence, the real exchange rate index based on unit labour costs – perhaps the most relevant indicator of competitiveness – improved markedly, especially in the period 1995-1999.

That notwithstanding, favourable changes in relative productivity and costs merely indicate the *potential* competitiveness of a country. In the ultimate analysis materialization of that potential has to be judged on the basis of *actual trade performance*. We thus approached the question of 'revealed competitiveness' in two steps. First, we looked at changes in market shares (in EU-15 imports); and secondly, using a 'shift-and-share' analysis, we decomposed those changes into sub-components so as to be able to determine the size of the 'competitiveness factor'. In both steps, we endeavoured to asses Hungarian performance

[18] In terms of value-added, the difference is most probably smaller, see footnote 15 above.

compared to ten transition (pre-accession) countries. The outcome of that analysis was extremely favourable for Hungary.

In the second half of the 1990s, Hungary's trade share on EU markets increased by 1 percentage point. This represents the largest increment and the second highest growth rate (after Estonia) among the transition countries. As for the components of that increase, roughly 80 % can be attributed to improved competitiveness (once again, the second highest after Estonia, where competitiveness accounted for 85 % of the increase).

The above findings indicate that, over the past few years, Hungary's economy – especially its manufacturing sector – has clearly proven its '*...ability... to withstand competitive pressures*'. However, recent changes in exchange rate policy and wage behaviour may have had an unfavourable impact on the country's competitiveness. Before interpreting these more recent developments, a brief characterization of sectoral differences would appear in order.

The rapid growth in output and productivity was associated with an extremely uneven pattern of development, at the level of both the macro-economy and manufacturing. On the one hand, the growth in industry (or, more generally, in the traded-goods sector) was very rapid, whereas the *quantitative* development of the sectors supplying non-traded goods (services) was rather modest. It should be noted, however, that official statistics might not record some improvements in the quality of services. On the other hand, the pronounced increase in manufacturing output and productivity was based on profound structural changes – the most profound of all CEECs[19]; they involved exceptionally rapid expansion in a limited number of branches/activities (viz. motor vehicles and office machinery) and relatively slow growth or shrinkage in a number of others. The differences in growth rates are clearly associated with differences in the extent of penetration of FDI (i.e. investor interest) in different sectors.

Finally, we recall recent developments that have been only partly covered by the statistics reported in our paper: most importantly, the nominal appreciation of the forint (since May 2001), combined with a sharp increase in nominal wages (since the fourth quarter of 2001) and a slow-down in productivity growth in the manufacturing sector (in 2001). These changes, and further likely developments in 2002, are estimated to result in at least 15 % real appreciation in the real exchange rate based on ULC during 2001-2002. The interpretation of these sharp changes in the factors underlying Hungary's international competitiveness thus becomes a major question.

One possible interpretation is that in the period 1995-1999, the increase in competitiveness was 'excessive'; there should thus be ample room for absorbing changes of the opposite kind. If it proves correct, this interpretation bears two major implications. The first may take

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[19] See Gács (2002).

on particular importance for those future EU-partners closest to Hungary: the rapid convergence of nominal wages has already begun - even prior to Hungary's actual accession to the Union. The second relates to prospective developments in trade shares: after a period of achieving very large gains, the future may well see Hungary securing more limited gains in market shares than in the recent past. This interpretation should be fairly reassuring for both Hungary and its closest trading partner, Austria.

However, since we have no clue as yet about the effects of the real appreciation of the forint, a different scenario should also be considered: during 2001-2002 the real exchange rate may well have undergone excessive correction. If that is the case, Hungary may well go through a difficult period of adjustment, in which economic policy faces a dual task: keeping wage increases significantly down while implementing fiscal stringency.

It is not yet clear which of the two interpretations will prove correct. None the less, quite apart from the outcome, we believe that a social agreement pertaining to prospective price and wage changes could well assist the country to maintain/regain its competitiveness, while helping it to reach a compromise where other conflicting goals are concerned, including the nominal and real paths taken by macroeconomic variables as the country moves closer to EU- (and later EMU-) accession.

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Annex

Methodology to Table 10

The shift-and-share analysis can be applied to decompose the increment in total exports of country i (a given CEEC) to another country (in our case the EU) ΔX_i as follows:

$$\Delta X_i = \sum_i \Delta x_{ij} = \sum_i x_{ij}(\Delta M / M) + \sum_i x_{ij}\left[(\Delta M_j / M_j) - (\Delta M / M)\right] + \sum_i x_{ij}\left[(\Delta x_{ij} / x_{ij}) - (\Delta M_j / M_j)\right],$$

where x_{ij} is country i's exports of commodity/sector j; M_j denotes EU's total imports of commodity/sector j (in our case total imports from 'extra-EU', i.e. non-EU member states); M denotes EU's total imports (from 'extra-EU') and 'Δ' stands for increment.

$\sum_i x_{ij}(\Delta M / M)$ can be interpreted as a general demand component; $\sum_i x_{ij}\left[(\Delta M_j / M_j) - (\Delta M / M)\right]$ is a structural effect component and $\sum_i x_{ij}\left[(\Delta x_{ij} / x_{ij}) - (\Delta M_j / M_j)\right]$ is a component measuring the competition effect.

The shift-and-share analysis makes it possible to decompose the total increment in CEEC exports to the EU into three hypothetical components:

1. A *general demand component*, showing how a given country's exports would develop, were it to grow at the same rate as total EU imports;
2. A component measuring the *structural effect*, showing whether the country's exports are centred on commodities that are in above-average demand in the EU (i.e. they grew at an above-average rate compared with total EU imports); and
3. A component measuring the *competition effect* that shows whether the country has exported more in certain commodities to the EU than its competitors outside the EU (this decomposition refers only to 'extra-EU' trade).

Source: Competitiveness of Industry in CEE Candidate Countries. Composite Paper, Final Report (WIIW 2001)

Fiscal Policy and Government Debt in Hungary

Fiscal consolidation in the run-up to EMU

Judit Neményi[§]

1. Introduction

Hungary has made significant progress in comprehensive reforms of public finance during the first decade of transition. Fiscal reforms comprised: redefining the role of the state in the economy, downsizing the budgetary redistribution, institutional and procedural changes in budgeting, restructuring of budget revenues and expenditures, transformation of the deficit financing regime and facing such future challenges of sustainability like implicit indebtedness stemming from the ageing problem. The overriding economic policy goal – that of shifting the transitional economy to a balanced, high growth path – called for significant fiscal adjustments that could be designed and implemented only by increasing transparency and accountability of the general government.

Although major steps had already been carried out in the second half of 1990s, in order to frame a fiscal stance for macroeconomic consistency, the fiscal consolidation remains the most important ingredient of sustainable real and nominal convergence in the run-up to full-fledged membership in the Economic and Monetary Union (EMU) and thereafter.

EMU accession is anticipated to exert pressures on fiscal policy via different channels. Fiscal policy fulfils two very different tasks: while it will play a key role in maintaining balanced growth path in the longer run, further structural transformation of the budget is essential for increasing the speed of catching up. Thus the first task of fiscal policy is macroeconomic and can be designed within the general investment-saving balance framework, based on the principle of fiscal stance sustainability that is largely subsumed by the budget balance and the public debt to GDP ratios. The second task of fiscal policy concerns the budgetary redistribution and addresses structural issues: the size and aims of various spending items and the structure of the tax system should be determined by considering development policies and social aspects. Accession to the EU will be associated with increased level of government spending for compliance with Union's standards (e.g. infrastructure and environmental investments, costs related to the healthcare reform, transformation of public administration etc.). These tasks, though co-financed by EU funds, might easily pry the budgetary target open, as budget revenues cannot be easily raised to accommodate excess expenditures without violating government's commitment to reduce tax rates. The harmonization of these macro- and structural tasks raises new challenges for budget preparation in the accession period.

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The strategy of fiscal policy in the run-up to EMU should be based on two core principles: transparent medium term orientation, guided by well-defined fiscal rules. Fiscal rules, if effective, might help creating fiscal discipline and meeting requirements for sustainability in the long run, while they allow the budget of sufficient flexibility in addressing short term challenges stemming from the business cycle and shocks. In medium term the fiscal strategy should target fulfilling Maastricht convergence criteria and establishing conditions for compliance with the Stability and Growth Pact (SGP) in a sustainable manner.

The paper deals with the macroeconomic aspects of fiscal consolidation in Hungary and it is organized as follows. In Section 2 different indicators of fiscal stance will be presented. The fiscal impact and sustainability of public finance during the last ten years will be analysed, in Section 3. Section 4 discusses the main elements of fiscal consolidation required for meeting the convergence criteria. Conclusions, in Section 5, relate to the main principles to be followed in the run-up EMU.

2. Indicators of fiscal stance at the outset of the accession period

By the early 2000s Hungary has largely completed the task of transition from the centrally planned to a market based economy and is facing the decade of accession to EMU. The last ten years were characterised by radical economic reforms, growing liberalization of trade and capital movements and establishing the basic financial markets. Transition was accompanied by large-scale privatisation and fundamental changes in institutions and regulation. Creating market conditions led to deep structural changes and macroeconomic adjustments necessary for achieving a relatively high growth path. Microeconomic restructuring and co-ordinated macroeconomic policies contributed to the restoration and strengthening of growth potential and created equilibrium conditions for sustainable catching up as well as for steady reducing of inflation rate. The transformation was aggravated by external shocks: collapse and loss of basic markets (CMEA), in the early phase, and contagion stemming from shocks in the emerging markets, over the second half of 1990s.

Hungary entered its sixth consecutive year of relatively high growth in 2002[1], driven by investment and exports. Transformation of economic structure was supported by a large sum of foreign direct investment (FDI) that Hungary has received since the end of 1980s. Reduction of annual price increases – from close to 30 % towards low, one-digit inflation – was more gradual than in other transitional economies due to the so-called 'sustainable' disinflation policy, aiming at minimizing the output loss. By 2002, however, the CPI inflation could be reduced to around 6 %, a good starting point for going ahead with the nominal convergence towards the inflation criterion of the monetary union. (Table 1) Hungary entered

the transition period with a high level of public – especially external – debt and with a non-transparent public borrowing system, which imposed serious financial constraints on both the policy-making and the economic development. Reforming the system of public finance[2] has been playing a key role in stabilisation and creating a base for sustainable catching up to the developed European economies.

Table 1.

Main macroeconomic indicators

	1995	1996	1997	1998	1999	2000	2001
	Growth rates at constant prices preceding year = 100						
GDP	1.5	1.3	4.6	4.9	4.2	5.2	3.8
o/w: domestic absorption	-3.1	0.6	4.0	7.8	4.0	5.1	2.1
- private consumption	-7.1	-3.4	1.7	4.9	4.6	4.1	4.1
- gross capital formation	-4.3	6.7	9.2	13.3	5.9	7.7	3.1
Exports	13.4	8.4	26.4	16.7	13.2	21.8	9.1
Imports	-0.7	6.2	24.6	22.8	12.3	21.1	6.3
CPI (Dec/Dec)	28.3	19.8	18.4	10.3	11.2	10.1	6.8
CPI (annual average)	28.2	23.6	18.3	14.3	10.0	9.8	9.2
Current account (cash flow, % of GDP)	-5.5	-3.7	-2.1	-4.8	-4.3	-2.9	-2.2
Current account (in billion EUR)	-1.9	-1.3	-0.8	-2.0	-2.0	-1.6	-1.2
FDI* (in billion EUR)	3.5	1.8	1.9	1.8	1.8	1.8	2.7
Memorandum Item:							
GDP growth rate in EU-15	2.3	1.7	2.6	2.8	2.5	3.4	1.3

Source: Annual Reports of National Bank of Hungary.

* Foreign direct investment, including privatisation revenues and inter-company loans.

The public finance reforms implemented over the 1990s covered institutional, regulation and policy changes and were based on re-definition and re-regulation of the role of the state[3] in the economy according to the main principles prevalent in market economies. This required:[4]

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[1] Although the GDP growth rates in 2001-2002 have been declining – affected by the worldwide slowdown – the anticipated growth rate of Hungarian economy (around 3,5 %) is still high relative to the 1.3 % GDP growth of EU-12 projected for 2002.

[2] There are several studies dealing with different aspects of Hungarian public finance reform and fiscal adjustment in 1995. The volume edited by Bokros and Dethier (1999) provides a complex presentation of related issues. It would go beyond the scope of this paper to present even the most important steps and elements of the reform process. Here, focusing on current problems and open issues in an EMU-accession perspective, only a brief summary is given as a background for the evaluation of the fiscal position achieved by the early 2000s.

[3] Kornai (1999) discusses the philosophy of public finance reform.

[4] László (1999) gives an insight into stages and details of public finance reform in Hungary.

- Clear definition of tasks and rights of the different sub-systems of the general government (central budget, extra-budgetary funds, social security and local governments);
- State's withdrawal from the income redistribution;
- Reduction of borrowing requirement of the general government;
- Transformation of the system of financing the deficit;
- Creating transparency regarding the budget process;
- Creating new institutions for efficient execution of fiscal policy (Treasury offices, debt management agency);
- Creating transparency of accounts.

The above sets of tasks were closely interrelated. Creating transparency of accounts was an essential precondition for giving judgement on the actual fiscal position and designing budget retrenchment, considering longer-run, debt sustainability prospects. The 'traditional' budget (presented to the Parliament) has been prepared on a cash-flow basis in Hungary. The coverage and content of budget accounts of the four sub-systems (central budget, extra-budgetary funds, social security funds and local governments) has been improving over the decade,[5] but the size of non-deficit-related transactions and off budget obligations could not be reduced substantially due to the relactance of political will. Others than cash balances have not been officially produced until recently, despite the fact that it was recognised, that in a macroeconomic context the accrual-basis balances would have been more appropriate for the analysis of fiscal stance, since the economy underwent rapid structural changes and the composition of budget financing experienced significant shifts (from foreign exchange to domestic currency, from short term Treasury bills to government bonds etc.).

The implementation of a new regime of deficit financing was one of the fundamental elements of Hungarian public finance reform. In the centrally planned regime the National Bank of Hungary (NBH) carried out large-scale quasi-fiscal activity: the bank accommodated the budget borrowing needs with no limit and at preferential interest rates. Moreover, the

[5] It took time until the consolidated balance of sub-systems and the government expenditures in a functional classification became available for policy makers. Therefore the size of redistribution and the fiscal impact on the economy could be estimated with low reliability in the early phase of transition. Developments in achieving fiscal transparency in Hungary is discussed in P. Kiss (1998).

external borrowing (for the government and financing the whole economy) belonged to the tasks of the central bank. In order to distinguish clearly between fiscal and monetary functions, according to the rules introduced in 1992[6], budget deficits have been financed by marketable government securities (Tbills and bonds) and direct deficit financing by the central bank is prohibited.[7] The reform of budget financing system was completed in 1996, when a debt swap operation[8] phased out all the budgetary credit lines at below market interest rates and the NBH ceased to borrow in its own name for the government in the international markets.[9] The present regime of public finance is fully compatible with European standards. Shifting to a market based deficit financing regime turned out to be a efficient in provoking a substantial fiscal adjustment, postponed for long in the early nineties, as the actual costs of government borrowing appeared gradually in budget expenditures.[10]

Although necessity and main principles of public finance reform were already clearly recognised at the very start of the transition and several instututional and regulatory changes were set up during the first half of the 1990s, deep structural measures were not introduced until the growing tension in external finance – deterioration of the current account – anticipated a financial crisis in Hungary. Following the Mexican collapse, in January 1995, doubts and distrust emerged in the international markets about stability of Hungarian development, which made the radical fiscal adjustment unavoidable. The fiscal adjustment 'package', launched in March 1995, covered short-term measures and long-term strategic decisions and consisted of the following blocks: (i) 'austerity' measures for prompt reduction of the budget deficit; (ii) measures for regaining and strengthening credibility; (iii) concerted efforts for reducing the public debt to GDP ratio to a sustainable level; (iv) and transformation of large social welfare systems (pension, healthcare).

Fiscal retrenchment, implemented in March 1995[11], served primarily to reduce public sector's borrowing requirement (PSBR) so as it could be financed from the market. Steadily growing

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[6] The legal and institutional framework was established by the Act on the Central Bank of 1991 and its successive amendments.

[7] Between 1993-1995, there were some 'transitional' rules, allowing of a gradually shrinking direct credit line between the central bank and the budget.

[8] The budget's preferential HUF credits at the central bank were swapped into loans denominated in foreign currencies; the currency-composition and conditions were determined according to the liabilities denominated in foreign currencies at the NBH's portfolio.

[9] The central bank continued participating in the forex debt management in co-operation with the Debt Management Agency.

[10] Barabas et al. (1999).

[11] E.g. expenditure cuts and restructuring, introduction of import surcharge for a transitory period. Bokros and Dethier (1999) provide a deep insight into the details. Fiscal measures were complemented by realignment of the exchange rate, resulting in surprise inflation near to 30 %, and by introducing a pre-announced, crawling, narrow-band exchange rate regime in order to increase predictability. Surányi and Vincze (1998) discuss the monetary side of the adjustment.

primary budget deficit (deficit net of interest payments) had to be turned into a surplus. Following the restrictive measures aiming at restoring macroeconomic equilibrium, fundamental changes had gradually been introduced in the budget process. Budget balances for the macroeconomic policy setting became to be determined on the basis of the entire general government. It was decided that the privatisation revenues could not finance current expenditures but debt repayment. The budget preparation was re-regulated, introducing the regime of medium term fiscal projection (see in Box 1) which provided a regularly updated framework for the annual budget preparation and aimed at increasing predictability and credibility of fiscal policy. As an additional measure of reducing the (implicit) public debt burden, reforming the social security system started by the introduction of a 'two-pillar' pension system in 1998 (Box 2.). Transformation of the healthcare system has been progressing very slowly so far, it is a difficult issue left for the future still in 2002.

Box 1. The transformation of budget process

The implementation of the Act on Public Finance (APF) – the central law governing the operation of institutions belonging to the general government – has brought about major changes in the budgeting process in Hungary during the 1990s. As a result the preparation and regulation of the Hungarian budget has become largely conform to the European Union standards. The timetable of annual budgeting process has been clearly established and incorporates the elements of a medium-term budget framework as well. The Medium-term Budget Guidelines (MBP), including the broad targets for fiscal policy that are consistent with the macroeconomic conditions, are approved by the government in mid-year, followed by a parliamentary resolution concerning the deficit and the level of government expenditure relative to GDP. The MBP's 'corner figures' should be respected as ceilings in the budgeting process. The detailed budget and the assigned economic policy paper including a three-year projection have to be submitted to the Parliament by mid-October. According to the APF, the amendments by the parliament should respect the targets for total revenues and expenditures for each chapter voted in the first round of Parliamentary procedure. Final approval by voting is due by late-December each year.

In 1999 the government has amended the APF in order to allow for a system of two-year budgeting devoted to 'strengthening the role of the medium-term budget framework'. Although the APF provided discretion to the government to submit a supplementary budget at any time during the two-year period should there be significant deviations in the macroeconomic and fiscal development, in practice, the modification of expenditure directives was submitted for approval ex post to the Parliament, in November 2000. This allowed the government of sizable (1 % of GDP) discretionary spending of the excess revenues stemming mainly from higher than projected inflation. Thus the two-year budget proved to be a tool for weakening the democratic parliamentary control over the government spending, rather than increasing the fiscal discipline and predictability. The new government – elected in Spring 2002 – intends to return to the previous regime of annual budgeting within a medium-term rolling basis framework.

Box 2. The pension reform

The problem of implicit debt arising from the aging population was addressed in Hungary by pension reform implemented in 1996-1998. The reform was initiated by increasing the retirement age and by introducing an indexation formula for regulation of pension payments. The PAYG system was replaced in 1998 by a two-pillar system offering an option for PAYG members to join fully-funded private pension funds, constituting the 'second pillar'.* The entry to the second pillar was mandatory for the new entrants to the labour market, while older generations were allowed of free choice.

Although the reform was expected to reduce pension expenditures by about 3 % of GDP relative to the no-reform baseline scenario over a ten-year period, the net financial saving was estimated smaller – 1,25 % of GDP – due to the 'loss' of pension contribution paid into the second pillar. Despite the overall net public saving, the transformation of the pension system involves higher budget deficits in the short run. The 'transitory loss could be estimated around 0,5-1 % of GDP, declining to the extent of revenue loss becoming lower than expenditure savings in the central budget. However, this 'excess' deficit does not reflect a weaker fiscal stance, as it financed by the corresponding private savings redirected to the private pension funds.

The introduction of the two-pillar system was thought to alleviate the implicit public debt burden significantly. The estimations (Benczur (1998)), however, assumed that the proportion of pension contribution diverted to the funded pillar (6 % of gross wages in 1998) would have been gradually raised up to 8 % by 2000. The government, elected in 1998, was reluctant to go ahead with the pension reform according to the original scheduling (contribution rate remained 6 %). It was argued that the short-term revenue losses in the central budget were too large. However, 'revision' of the pension system was relatively slowly progressing, and the amendment was completed only at the end of 2001. According to the new regulation those who opted for the second pillar can redirect their savings into the PAYG system and the government took decision about a comprehensive reform of PAYG-pillar. These decisions weakened the viability of the pension reform. However, it is expected that the new government (elected in spring 2002) – according to its program – will return to the original version of the pension reform.

* The voluntary pension funds, operating since 1993, constitute the third pillar of the system.

Looking at the fiscal indicators (Table 2), it can be realised that reforms of the second half of 1990s proved to be successful in reducing the general government deficit (in percent of GDP) to the half of the level prior the 1995-adjustment, whatever of balances is considered. According to the headline (cash flow) figures the deficit of general government has been reduced to 3 % of GDP by 2002 from above 8 % of GDP in 1994. (Row 1 Table 2) However,

considering the general government balance measured by ESA95 methodology[12] Hungary is still running around 5 % of GDP public sector deficit, though these data reflect also that since mid-1990s a large size adjustment was taking place in Hungary's public borrowing. (Row 3 Table 2) It is also important to note, that due to the new pension system the general government deficit in Hungary in 1999-2002 has been about 0.5 percentage points higher (Box 2), than it would be in the 'no-reform' scenario, which should be taken into account when making international comparison. This part of deficit does not represent an additional pressure in the credit markets, as it is financed by pension contribution paid into private pension funds.

Table 2.

Indicators of General Government Balance

	1994	1995	1996	1997	1998	1999	2000	2001	2002F
1. Public Cash Balance (presented to the Parliament)	-8.4	-6.7	-3.1	-4.9	-6.3	-3.4	-3.4	-3.0	-3.1
2. Accrual-basis Balance	-10.3	-7.3	-4.7	-4.7	-6.4	-2.9	-2.5	-2.8	-3.0
3. Net borrowing of the General Government (ESA95 balance)	-12.6	-8.0	-6.3	-7.4	-8.0	-5.3	-3.0	-4.1	-4.9
3.a. Primary Balance (ESA95)	-5.8	0.8	2.6	0.7	-1.1	1.5	1.9	0.2	-0.9
3.b. Interest balance	-6.8	-8.8	-8.9	-8.1	-6.9	-6.8	-4.9	-4.3	-4.0
4. Change in general government gross debt	14.4	17.9	2.2	5.1	7.0	6.3	2.7	4.0	5.6

Source: for 1994-1997 National Bank of Hungary. Description of data corrections can be found in Kiss and Szapáry (1999). 1998-2002: Ministry of Finance March 2002 notification.

Over the last eight years the actual (ESA95) public sector deficits to GDP ratios have always been substantially higher than the cash flow balances reported to the Parliament. The discrepancy does not display a clear trend: in 1996-2000 it was reducing, then recently it restarted to grow and the actual ESA95 deficit is anticipated exceeding the reported one by 1.8 percentage points in 2002. The gap between official reporting and actual budget could be explained by the following factors (Table 3).

- Smaller and declining part of the difference between the 'traditional' and actual (ESA95) deficits stems from the correction for accrual-basis indicators, being significant in years when lengthening the maturity structure of the outstanding public debt – shift from T-bill financing to long-term bond finance – took place.

- Correction by eliminating lending minus repayment added 0.2-1 percentage points to the deficit to GDP ratios on the average. This item has substantially reduced over the last three years.

[12] Despite the efforts of creating transparency, the official general government's accounts have not yet become fully compatible with the EMU-standards. Official reporting according to ESA95 methodology was first provided by the Ministry of Finance in April 2002.

- The gap could be explained to a large extent by the off budget transactions.[13] The size of expenditures financed via the intermediation of State Privatisation and Holding Company (ÁPV Rt) fluctuated between 0.5-1 % of GDP over 1995-2001. Moreover, in 2001-2002 road construction, financed by the State Development Bank (MFB), contributed also to the divergence of actual from the reported deficits by about 1.5 percentage points. This practice of 'escaping from the transparency' should obviously halt and the profile of these institutions should be cleaned by eliminating quasi-fiscal activities, so as public expenditures appear transparently in the central budget.

Table 3.

Components of difference between ESA95 and cash flow defcits

	1994	1995	1996	1997	1998	1999	2000	2001	2002F
1. From cash-flow to accrual data	-1.9	-0.2	-1.6	-0.8	-0.1	0.5	0.9	0.2	0.1
2. Exclusion of lending minus repa	-0.5	-0.2	-0.6	-0.3	-0.8	-1.1	-0.2	-0.2	-0.1
3. Off budget transaction	-1.8	-0.9	-1.0	-1.4	-0.9	-1.3	-0.3	-1.1	-1.8
4. Difference between ESA95 and cash flow deficits (1+2+3)	-4.2	-1.3	-3.2	-2.5	-1.7	-1.9	0.4	-1.1	-1.8

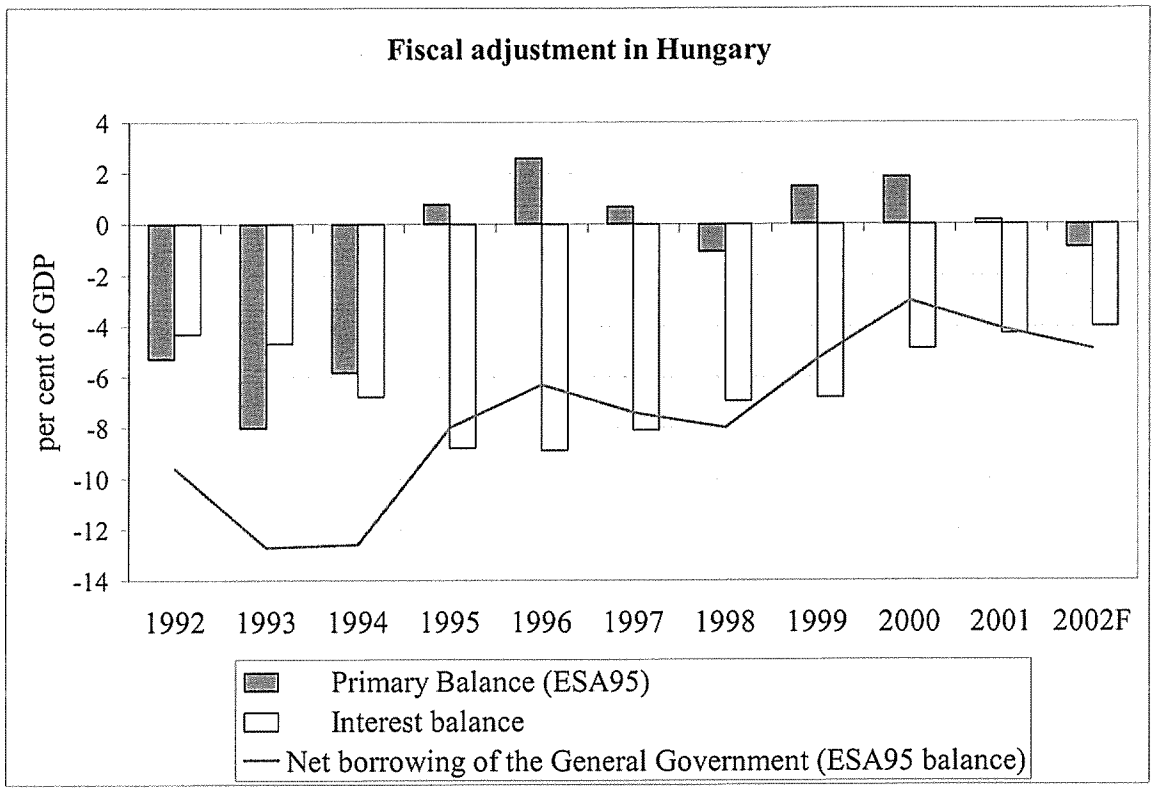
Source: For 1994-1997 National Bank of Hungary, estimations according to European methodology. Description of data correction is published in Kiss and Szapáry (1999). For 1998-2002 Ministry of Finance March 2002 notification for the European Commission.

Growing budget deficit in the early 1990s was fuelled by several 'transitional' and policy factors. (Figure 1) Steadily deteriorating fiscal position of the government could not easily be recognised as the 'official' cash-flow primary deficit was never reported higher than 2 % of GDP. The interest payments to GDP ratio, approaching 9 % of GDP by 1995, reflected the effect of shifting to a market based financing regime and the high risk premium that the investors demanded with in view of the emerging 'twin deficit' – budget and current account deficits – problem in Hungary. Primary deficits, off budget obligations and the increasing interest charges led to the explosion of debt process. The measures taken in March 1995 had an instant and lasting effect on the borrowing needs of the general government. Turning to a primary surplus became a policy priority in order to alleviate the debt burden, the surplus jumped over 4 % in the official balance – approximately 2.6 % on ESA95 basis – in 1996 and the primary balance remained positive until 2001.[14]

[13] Changes of gross public debt measured in percent of GDP (Row 4 in Table 2) reflect that the off budget activity was even more expanded than that covered by ESA95 reporting, especially until 1996. E.g. the long-term government bonds, covering bank-restructuring losses, were issued in 1993-1995 by private placement to the 'consolidated' banks, increasing the stock of 'off budget obligations'. These liabilities, though they did not have an immediate macroeconomic impact, contributed significantly to the increase in the public debt to GDP ratio and generated some excess borrowing requirements in later years.

[14] In 1998 this trend was apparently broken, because the consolidation of the last 'weak chain' of the banking system, the state-owned Postbank was carried out by a direct budget subsidisation.

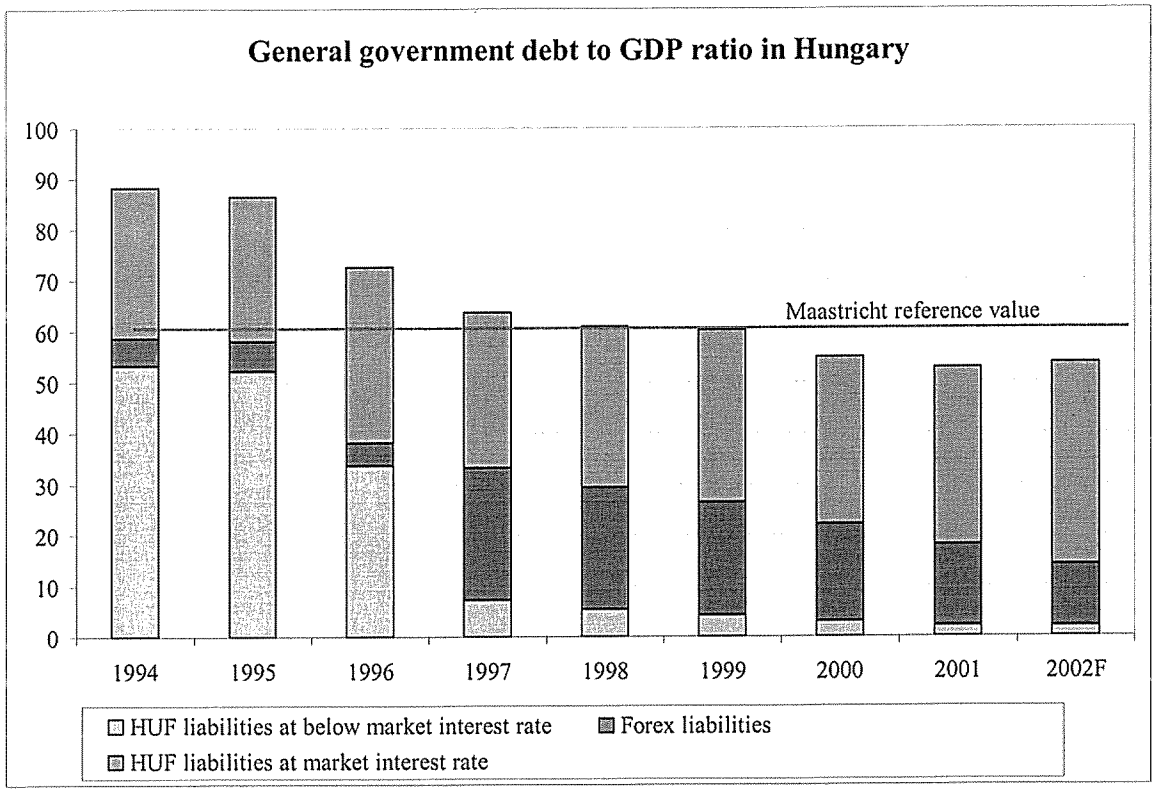
Figure 1.



In the first half of 1990s Hungary belonged to the group of highly indebted countries: the general government debt to GDP ratio (debt ratio) was rising, it was 86.5 % in 1995. The contribution of non-deficit-financing debt to the growing indebtedness was significant: the proportion of the off budget (so-called 'non-deficit-financing') liabilities had increased to above 25 % of GDP by 1995, which played a key role in the intensification of the public debt burden. Since in the centrally planned economy the budget received unlimited financing from the central bank at below market interest rates[15] and foreign borrowing was carried out by the NBH, the general government debt position could not be evaluated on the basis of the outstanding liabilities of the general government. Decomposition of the general government debt ratio shows that more than half of the public debt stock was non-marketable (Figures 2) and the proportion of foreign debt (borrowed directly by the government) was negligible, though it is well known that Hungary's external debt to GDP ratio was above 65 % in 1990 and almost hundred per cent of it was sovereign debt.

[15] Large part of credits was at zero interest rates and with no maturity. See details in Neményi (1998).

Figure 2.



The NBH borrowed abroad in its own name, therefore, in order to see the level of public indebtedness and the composition of budget financing with the related interest costs in a historical view, it was necessary to produce consolidated accounts and (gross and net) debt indicators.[16] (Table 4) The so-called consolidated public debt includes liabilities of both the general government and the central bank to the markets. The net consolidated debt is computed by reducing gross consolidated debt by all the financial assets of the budget and the bank (e.g. foreign reserves held by the NBH). The gross consolidated debt (Row 2 in Table 4) exceeds the general government debt as domestic financial institutions held foreign currency deposits at the central bank and the marketable sterilization instruments at the NBH add also to the consolidated stocks.[17] It has to be emphasized, however, that the convergence (Maastricht) debt criterion refers to the gross general government debt to GDP ratio (Row 1 in Table 4) and looking ahead, this indicator might be appropriate for measuring

[16] The so called 'consolidated' debt indicators can be produced by netting out the credit lines between the central bank and the budget, that is by adding the liabilities (the monetary base excepted) of the central bank to the general government outstanding debt. Barabas et al. (1999) provide details about this exercise.

[17] In the quasi-fix, pre-announced crawling exchange rate regime, the NBH defended the exchange rate by intervening, most of the time, at the strong edge of the band and it sterilised the excess liquidity by issuing HUF-denominated instruments.

the change in indebtedness of the government[18], since reforming the regime of public finance resulted in establishing transparency of general government debt position.

Table 4.

Indicators of public indebtedness

	1995	1996	1997	1998	1999	2000	2001	2002F
1. Gross public debt (ESA95 definition)	86.5	72.6	63.7	61.9	61.0	55.4	53.3	54.2
2. Consolidated public debt*	99.7	83.6	74.3	73.8	75.8	74.7	67.8	
o/w: HUF denonimated/GDP	24.9	29.3	33.1	35.3	37.0	41.1	43.0	
Forex denominated debt/GDP	74.8	54.3	41.2	38.5	38.8	33.6	24.8	
3. Consolidated net public debt**	56.8	49.1	43.5	43.7	40.6	40.9	40.3	

* Liabilities of the general government and the central bank (interest bearing only) to the domestic private sector and foreign investors.

** Gross consolidated debt minus financial assets of general government and the central bank.

Source: Ministry of Finance and National Bank of Hungary.

The debt ratio – that should be compared with the EMU reference value – has dropped by more than 30 percentage points since 1996 in Hungary, from above 86 % in 1995 to 53.3 % in 2001. Thus, by the end of the first decade of the transition, the public indebtedness was reduced in Hungary to a level that can be managed safely in a fast growing economy and since 1997 the changes in the pattern of general government's debt corresponds to the actual structure of financing.

In the second half of the last decade there were marked changes in domestic versus foreign currency financing: the share of HUF (Hungarian forint) – denominated financing has been expanding and the foreign currency debt has been shrinking. The proportion of external sovereign debt to Hungary's total has been reduced to 46 % (EUR 13 Billion) by the end of 2001. The net foreign currency debt decreased as well and the share of the public sector has dramatically declined. (Table 5)

[18] The 'inconsistency' between Maastricht deficit and debt indicators is wellknown, namely, the Maastricht (ESA) definition of deficit corresponds to the changes in net, and not in gross public debt.

Table 5.

Hungary's external debt and debt service indicators

	1995	1996	1997	1998	1999	2000	2001
1. Gross external debt* (in EUR billion)	24.0	22.0	22.7	20.1	24.4	26.9	28.2
in % of GDP	69.5	58.0	49.6	48.1	53.7	54.2	48.8
in % of XGS	..	134.8	89.3	84.8	94.5	78.2	
ow: government & NBH	75.0	69.3	61.9	56.0	54.9	49.3	46.3
2. Net external debt (in EUR billion)	11.7	10.8	10.7	7.9	6.9	6.3	2.6
in % of GDP	34.9	28.2	21.8	18.8	15.0	12.7	4.4
ow: government & NBH	69.0	59.4	47.1	35.5	19.3	-3.0	-53.8
3. TDS/GDP**	15.1	14.8	14.4	9.3	9.2	9.5	..

* Liabilities denominated in foreign currencies, excluding inter-company loans.

** Amortization of medium and long-term liabilities (excluding prepayments) plus interest payments to GDP.

Sources: National Bank of Hungary.

The government securities market has experienced a spectacular development during the last decade in Hungary. As a consequence of cutting the public borrowing needs, after 1996, the budget deficits could be financed from the market and the average maturity of securities has substantially been lengthened by issuing government bonds up-to 15-year maturity. The gradual liberalization of the market served increasing liquidity and deepening the government securities market, while it contributed to improving cost-effectiveness of public financing as well.[19] According to the financing plan for 2002 maturing foreign-currency debt will be refinanced by issuing HUF government securities.

3. The fiscal stance in macroeconomic perspective

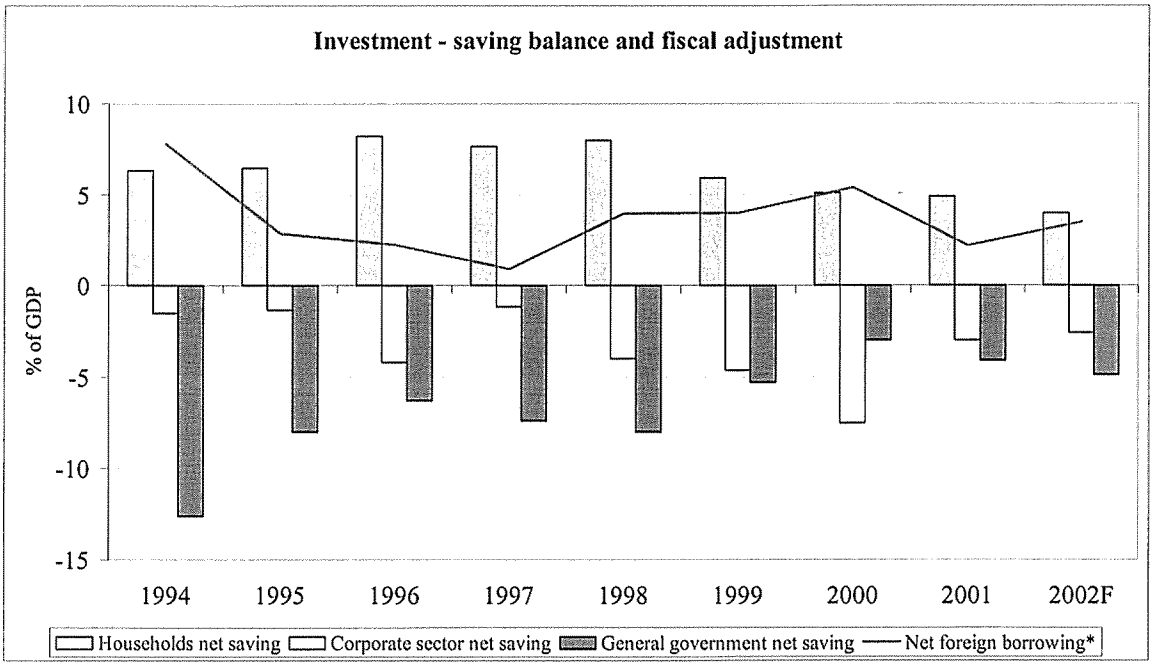
In the short run fiscal policy can play a useful output and inflation stabilization role, while in the longer run the determination of fiscal stance should be subordinated to sustainability considerations. In the long run the main task of fiscal policy in Hungary, starting from an over-indebted position in the early 1990s, has been to support the relatively rapid growth – experienced since 1996 – by keeping the public indebtedness under control, in line with the sustainability requirements. This task requires an investment-saving approach in order to determine the fiscal stance consistent with a sustainable external balance. The analysis of public debt dynamics can be used to derive a primary surplus requirement for avoiding public debt explosion. In the short run budgetary policy needs enough flexibility to cope with pressures stemming from the business cycle and shocks. The main challenge of fiscal policy is, therefore, to find an effective and credible combination of long-term discipline with short-

[19] See in Csajbók and Neményi (1998).

term flexibility. Both aspects of fiscal policy is equally important: overlooking long run might lead to debt explosion, experienced not only in Hungary prior 1995 but in many of the euro-zone member countries in previous decades. On the other hand, running pro-cyclical fiscal policy might easily erode the results of stabilization.

In Hungary, following a long period of disequilibria, the radical monetary and fiscal adjustment, launched in 1995, established the preconditions of an export- and investment-driven, sustainable economic growth and disinflation, evolving since 1996. The investment – saving balance reflects fundamental changes: the cut of PSBR resulted in recovery and development of industrial capacities financed from private sources, without pushing the foreign imbalance to an unsustainable range. The twin – budget and current account – deficits have been reduced to levels that could be financed in full from capital markets. (Figure 3) This was accompanied by a reasonable improvement in the trade balance; growth rate of exports rised to double-digit. Improving assessment by the capital markets appeared in declining spreads on HUF denominated securities.

Figure 3.



* Net foreign borrowing has been computed from the current account data making corrections for accrual accounting.

One of the main objectives of public finance reform was to reduce the size of the budgetary redistribution in the economy. In early 1990s the tax burden was very high in Hungary in an international comparison: the budget revenue to GDP ratio was close to 60 %. Heavy taxation of labour and profits reduced Hungary's competitiveness and worked against the expansion of economic activity. The government's programs of tax reduction, however, could

be implemented very slowly due to the shrinking tax bases, falling GDP. Alleviating the tax burden had to be preceded by spending cuts in order to respect the deficit targets consistent with stabilisation goals. As a results of a series of reforms, restructuring both revenue and expenditure sides of the budget[20], the primary revenues to GDP declined from above 50 % in 1994 to 45.6 % in 2001, while the expenditure to GDP ratio dropped by more than ten percentage points over the last decade, to 45.4 % in 2001.

Table 6.

Budgetary redistribution

	1994	1995	1996	1997	1998	1999	2000	2001
1. Total revenue (ESA95)	51.7	48.9	47.7	45.0	45.8	46.0	46.2	46.3
2. Total expenditures (ESA95)	64.3	56.9	54.0	52.4	53.8	51.2	49.2	50.4
3. Primary revenues (ESA95)	50.6	48.0	45.9	43.3	44.7	45.1	45.4	45.6
4. Primary expenditures (ESA95)	56.4	47.2	43.3	42.6	45.8	43.6	43.5	45.4
o/w: Investment expenditures	8.9	6.5	6.1	6.7	9.0	6.2	8.0	7.2

Source: Ministry of Finance and Kiss and Szapáry (1999).

The fiscal impact of the government cannot be easily measured[21] under the transitional circumstances. In a high and changing inflation environment the interest payments contain high and fluctuating compensation of investors for inflationary losses. Since Hungary has been characterized by moderate inflation over the 1990s, the impact of government's fiscal position could be better evaluated by examining the real (operational[22]) deficit over time than by focusing simply on changes in the primary balance. The operational deficit requires eliminating the component of inflation compensation from interest payments and it measures the cyclically unadjusted real impact of fiscal policy on aggregate demand. Moreover, it would be necessary to identify the effects of the business cycle, which is difficult under transitional circimstances in Hungary, having no sufficiently long historical background of market-based operation and as the growth potential of the country has been gradually restored after transitional shocks. Nevertheless, we tempted to estimate the exogenous (i.e. cycle-related) part of primary expenditures by using the "Dutch method" of cyclical adjustment.[23] This indicator measures the actual change in the primary budget balance against its 'normative' change. The cyclically neutral budget was computed by assuming that every year, potential current revenues are related to the previous year's current revenue to GDP ratio and to the actual growth rate of GDP. For non-interest expenditures, we took the

[20] The structure of adjustment is essential for the success of stabilisation. The saving achieved in expenditures on wages and transfers can guarantee a longer lasting effect of fiscal retrenchment, while increases of tax rates or one-off cuts of investment expenditures – though resulting improving balances -may hinder the recovery of economic activity. Hungarian fiscal adjustment had a 'mixed' and permanently changing character. See in P. Kiss and Szapáry (2000).

[21] The problem of how to measure the fiscal impact of budget position has a large literature. The application of 'meaningful' measures in transition and accession countries is discussed in P. Kiss (2002).

[22] Theoretical discussion of measuring the fiscal stance under inflationary circumstances is given in Tanzi et al. (1999).

[23] Chand (1993).

previous year's non-interest expenditure to GDP ratio adjusted to the potential growth rate of the economy. [24]

Indicators of fiscal impact (Table 7) provide a clear indication about the effect of political cycle on the budgetary policy in Hungary. The years of parliamentary elections – 1994, 1998 and 2002 – have brought about significant fiscal loosening, that started already in the preceding years. There were, however, marked differences concerning the background of fiscal expansion episodes. When recovery re-started in 1997, it was unavoidable to compensate the population to a certain extent for revenue-losses suffered during the adjustment period. It should also be noted that fiscal impact indicators for 1998 include a special item (the effect of Postbank consolidation): excluding the financing of Postbank 'deficit', the fiscal expansion would be lower by 1.2 percentage points. The fiscal stance in 2000 was more or less consistent with the cycle, followed by substantial fiscal loosening in 2001-2002. Although the increase in discretionary spending could be explained by the attempt of the government to follow counter-cyclical fiscal policy as a response to the worldwide downturn, large part of expenditure growth was related to the political goals before general elections taking place in April 2002.

Table 7.

Fiscal impact of the budget

	1995	1996	1997	1998	1999	2000	2001	2002F
1. Fiscal impact_PB*	-6.6	-1.8	1.9	1.8	-2.6	-0.4	1.7	1.1
2. Fiscal impact_OB*	-5.5	-1.9	1.1	1.0	-2.1	-2.9	1.1	1.5
3. Non-cyclical budget impulse**	-8.9	-2.9	2.8	2.4	-2.8	-0.1	1.6	1.2

*Fiscal impact_PB: change in the primary balance. Fiscal impact_OB: change in operational balance corrected by the impact of the pension reform. Negative figures indicate fiscal restriction.

** 'Dutch' budget impulse: deviation of actual primary deficit from the cyclically adjusted one. Positive figures indicate fiscal expansion.

Source: Author's own computation based on the data from Ministry of Finance and using operational deficit figures published by the National Bank of Hungary.

To evaluate the deviation from the cyclical position, it is important to see whether the divergence stems from the investment-related expenditures over the cyclically neutral position or from increased transfer payments. Excess investment-related spending can be justified on the ground that shocks in the early transition destroyed large part of capacities and even after successful stabilisation – towards the EMU – public investment (infrastructure, environmental etc.) might be indispensable for speeding up the real convergence. More detailed analysis, however, revealed that whenever the deficits

[24] We assumed that potential growth of Hungarian economy has achieved 4-4.5 % by the end of 1990s. Darvas and Simon (2000) estimated a latent variable model for estimating the development of output gap.

exceeded the cyclical position the non-investment excess expenditures contributed to the increase in non-cyclical deficits as much as investment.

Sustainability of the public finance has been significantly improved during the 1990s, which is reflected by falling debt ratios and factors underlying the favourable debt dynamics. Using the government budget constraint and dividing by the gross domestic product, the change in debt-to-GDP ratio, d_t, can be written:

$$\Delta d_t = pb_t + (r_t - g_t)/(1+g_t) * d_{t-1} - s_t + sf \qquad (1)$$

where Δd_t change in the debt to GDP ratio in period t

pb_t primary deficit to GDP in period t

d_{t-1} public debt to GDP in period t-1

g_t real growth of GDP in period t

r_t real interest rate on debt in period t-1

s_t seigniorage

sf stock-flow discrepancies.

According to Equation (1) the debt-to-GDP ratio is on an unsustainable path if the real interest rate (r) is higher than real growth (g) – called 'snowball' effect – and if this effect cannot be counterbalanced by achieving primary surplus in the budget. The seigniorage[25] (s) might also facilitate avoiding the explosive debt ratio. However, relying on this type of financing involves the risk of higher inflation and lower credibility of policies. The actual change in the debt ratio is also influenced by stock-flow discrepancies. Besides the valuation changes on the foreign exchange denominated debt, this item includes the effect of off budget operations and privatisation receipts as well.

As it was discussed before, the development of budget's financing pattern over the 1990s – debt versus money financing and HUF versus foreign exchange liabilities – can be revealed only on the basis of the consolidated (with the central bank) debt indicators. The interest balance in the budget refers also to the net public debt. Moreover, the interest payments on the foreign currency denominated debt have been serviced by the central bank and the

[25] Here we refer to the monetary seigniorage that is measured as the change in the monetary base in percent of GDP.

bank's profit and loss position has had direct impact on the budget.[26] Therefore, in order to reveal the factors influencing the dynamics of public debt ratio over the 1990s, the decomposition – according to Equation (1) – was based on the net consolidated public debt.

Table 8.

Decomposition of debt dynamics

	1995	1996	1997	1998	1999	2000	2001
Change in the debt ratio* (1-2-3+4+5+6+7)	-3.3	-7.7	-5.7	0.2	-3.1	0.3	-0.6
1. Primary deficit excluding off budget transactions**	-1.7	-3.6	-2.1	0.2	-2.8	-2.2	-1.3
2. Seigniorage (net)***	1.6	0.9	1.0	1.2	1.3	1.4	1.3
3. Privatization Revenues	6.6	1.1	3.0	0.4	0.9	0.3	0.0
4. Real interest rate minus real growth ('snowball') effect	2.8	3.2	2.2	2.2	2.9	0.0	0.2
5. Real Effective Exchange Rate****	1.7	-0.4	-0.5	0.2	0.0	0.0	-0.2
6. Off-budget spending and obligations	2.1	-4.8	-1.2	-0.7	-1.0	4.2	2.0

* Net consolidated public debt to GDP.

** Since fiscal adjustment policy has been designed on the basis of headline budget figures in the observation period, in this computation we used a primary deficit indicator excluding the off budget payments and obligations.

*** Monetary seigniorage minus interest payments on mandatory reserves at the central bank.

**** Real appreciation had a reducing impact on the debt ratio.

Source: Author's own computations.

It can be seen from the breakdown of change in net debt ratio (Table 8) that the primary surplus achieved in the central budget was the major factor behind Hungary's debt consolidation in the second half of the 1990s. While the privatisation revenues represented also a significant source of financing in 1995-1997, the seigniorage provided 1-1.5 % of GDP financing, on average over the last years. Though public indebtedness has significantly been reduced by the early 2000s the 'snowball' effect has been prevalent over the last decade: the combined effect of real interest rates[27] and growth rate has been positive. Real exchange rate had only a negligible effect on the debt ratio, since the path of the real exchange rate, between 1996 and 2000 never exceeded the annual 2-3 %. In 2001 Hungary experienced a

[26] The regulation was changed several times during the last decade, but the main rule was that the bank paid its profit to the budget and if the bank was running loss it was covered by budget transfer. (Neményi (1998)) In 2002 the revaluation losses on the NBH's forex reserves – due to the large-sized appreciation of Hungarian currency in 2001 – amounted to HUF 160 billion (approx. 1 % of GDP). The budget issued a matching excess-stock of government securities.

[27] Here implicit real interest rates were used, computed in a 'below the line' approach. Method of computation is presented in Barabas et al. (1999).

double digit real appreciation,[28] but this had a negligible effect on the net public debt to GDP ratio as gaines on the gross debt were counterbalanced by revaluation losses on the foreign exchange reserves. The off budget activity had a strong upward pressure on the debt ratio prior 1995 (bank restructurng programs, in 1993-1994) and also in 2001-2002 (excess spending).

4. Fiscal stance in the light of Maastricht criteria and SGP

Looking ahead, it should be noted that 2002 forecasts indicate a marked change in direction of fiscal developments in Hungary. Both budget borrowing needs (general government deficit) and the public debt ratio are anticipated to be rising again, which requires urgent correction. Considering that privatisation in Hungary has almost been completed by the early 2000s, and seigniorage can be anticipated to move towards slight reduction in line with further disinflation, the debt dynamics analysis suggests, that in order to prevent the fiscal development from deviating from the equilibrium requirements, Hungary should return to running surpluses in its primary budget balance. If doing so, further reduction of the debt ratio might be expected. driven by a favourable interaction of the real interest rate and growth rate. In the run-up to EMU, the real interest burden is anticipated to be alleviated by improving debt indicators and convergence of long-term interest rates. Another precondition for avoiding the re-emergence of debt explosion is to design the fiscal stance on the basis of transparent indicators. It requires eliminating the off-budget spending and obligations in the future. Therefore economic policy should primarily focuse on how to ensure that the growth process unfolds smoothly. Fiscal policy might contribute to the 'balanced' real convergence process, by creating a growth-enhancing environment while containing macroeconomic imbalances.

Being small, open economy, the stability-oriented macropolicy requires primarily sustainability of current account deficit, implying a permanent binding constraint on fiscal policy until Hungary's adoption of the euro. Closing the development gap with the EU member states presupposes a relatively rapid growth led by robust growth in private investment. The steady state high growth and the implied level of investment are basically determined by the availability of financing sources. In the accession period the private domestic savings to GDP ratios can be expected declining not only because the favourable growth prospects provokes a surge in borrowing requirement of the corporate sector but also due to the anticipated weakening of the propensity of households to save.[29] The success of keeping the foreign borrowing needs (current account deficit) on a sustainable path depends largely on the budget's capability of offsetting rising private sector's demand for funding, by redicing PSBR. From an other angle, the size of Hungary's tolerable external imbalance will

[28] Hungary left the narrow-band, crawling exchange rate regime in May 2001. In the new, ERMII compatible exchange rate regime the fluctuation band of the exchange rate was set ±15 % around the fixed central parity.

[29] Improving income position, postponed consumption and relaxation of liquidity constraints are the main factors behind the declining trend of households' saving rate in many of the transition economies.

be fairly burdened by the external debt to GDP ratio of the country, since until the exchange rate risk exists expansion of foreign currency denominated debt might also be seen by market participants as a signal of vulnerability. Thus, in the run-up to the monetary union the sustainability of current account deficit together with the growing foreign indebtedness can be expected to remain the most important binding constraint on fiscal stance. One major challenge is to maintain current account deficits that can be soundly financed even if privatisation-related FDI recedes, or it is partly replaced by debt-creating capital inflows.

Based on Hungary's historical experience and taking into account that in the flexible, ±15 % large-band exchange rate regime the risk associated to the external position of the country might be growing, the sustainable current account deficit can be estimated around 4 % of GDP.[30] When GDP growth returns to its potential level – after recovery from slowdown in 2001 – the corporate sector borrowing will be growing, similarly to the development prior 2000. (Figure 3) Assuming 3-4 % to GDP household net saving position implies that government budget position should be further improved – even beyond Maastricht and SGP ceilings – in order to respect sustainability in the long run.

Maastricht fiscal convergence criteria require adjustment to achieve a general government fiscal balance ensuring that fiscal deficit will not exceed 3 % of GDP even if there is a serious downturn in the economy. The Stability and Growth Pact (SGP) adds that the general government budget ought to be 'balanced or achieve sight surplus' over the cycle while allowing the operation of automatic stabilizer as strongly as needed. In EMU the conduct of monetary policy is centralised and is no longer available as a policy tool at the national level. With the introduction of the common currency the exchange policy is also eliminated from the arsenal of policy tools. Considering that no 'extra' interest rate cut (hike) or resorting to devaluation (appreciation) is at policymakers' disposal in Member States to cope with a recession (overheating), they have to elaborate a budgetary policy[31] ensuring an appropriate policy mix at national level. As in the monetary union the fiscal policy is practically the main policy tool available at nation's level, it is understandable that in the euro-zone's countries the fiscal policies are of varying character. While there are countries that are still targeting to achieve the general goals led down in the SGP in the medium run, the high-growth member states have already been running much better balances in order to prevent their economy from overheating in upturns. Most of euro-zone countries have established rules that prevent budget position from serious deterioration in downturns. These rules aim at strengthening fiscal discipline, but they can be effective only if they monitor transparent balances and allow sufficient flexibility for pursuing a counter-cyclical fiscal policy, instead of insisting on arbitrarily determined debt and deficit ceilings. It is a delicate policy question what should be seen as 'optimal' level of public debt, the debt ratio to be targeted in the longer run. A high

[30] This is set in the new government's economic program and coincides approximately with the estimations of different international organizations (IMF, OECD).

[31] It is equally important that other policies (structural, labour market, etc.) should also be guided by this target.

debt level is clearly undesirable but in less developed countries with low debt ratio one might argue for running somewhat higher deficits – maybe higher than the zero budget – allowing the governments to increase investment for fostering growth.

In many of the transitional economies, the underlying fiscal stance (cyclically adjusted PSBR) needs still significant adjustment.[32] Compared with other EMU-candidate countries of the region (Table 9) Hungary's fiscal adjustment in the 1990s was outstanding, resulting in a substantial reduction of the public debt ratio, to below the Maastricht reference value. In contrast to some advanced acceding countries, Hungary has the advantage of having completed most important restructuring programs that produced excess deficits and debts. Nevertheless, in the short run, Hungary needs substantial fiscal adjustment as a correction of recent budgetary expansion. Then the main policy question to be addressed: what is an optimal speed of further fiscal consolidation towards the Maastricht deficit requirement and debt sustainability. There is no doubt that, despite the results achieved so far and even if correction for the pension reform is taken into consideration, further adjustment is unavoidable for arriving at a cyclically manageable position. Though the public debt to GDP ratio has already fallen below 60 % it can be considered still high compared to the level of development of the country.[33] Moreover, as it was discussed above, further reduction of public debt burden might contribute to making Hungary's catch-up more dynamic.

[32] About the fiscal stance of acceding countries see in Halpern and Nemény*i* (2001/b).

[33] The per capita GDP in Hungary, measured at PPP, was 52 % of EU average in 2001. Using a long-term approach – which cannot be considered more than a rough estimate – the 'core' of Equation (1) implies that, if the criteria on inflation (2 %) and the budget deficit (3 %) are only just met, then the public debt will converge to a level lower than 50 % if growth rate is 4 % and lower than 43 % if it is 5 % etc.. Thus the public debt ratio is still above its 'equilibrium' level in Hungary. Experience of high-growth EMU member countries (Ireland, Finland) reinforces this assessment.

Table 9.

Indicators of nominal convergence and growth in Central and Eastern European accession countries

	CPI*,annual average		General government budget** balance to GDP		Public debt** to GDP		Long-term interest rates***	GDP growth rate
	1996	2002F	1996	2002F	1997	2000	2001	2202F
Bulgaria	123.0	7.5	-15.3	-0.8	107.4	76.9	5.0	4.0
Czech Republic	9.1	3.9	-1.7	-6.7	13.0	17.3	5.3	3.4
Estonia	19.8	4.1	-1.6	0.1	6.8	5.3	6.8	4.0
Hungary	23.5	5.2	-3.2	-4.9	64.2	55.4	7.0	3.5
Latvia	17.6	3.0	-1.3	-2.8	10.6	14.1	10.2	5.0
Lithuania	27.4	2.7	-2.8	-1.6	15.7	23.7	6.3	4.0
Poland	18.6	4.0	-2.3	-6.3	46.9	40.9	8.8	1.4
Romania	38.8	26.0	-3.5	-3.0	16.5	22.9	49.2	4.2
Slovakia	5.8	4.1	-2.1	-5.0	29.7	37.3	7.7	3.6
Slovenia	9.9	7.5	0.3	-1.3	23.2	25.8	9.7	3.1
EMU reference value		2.8		3		60	..	1.3

Source: Data for 1996 – Regular Reports on CEEC-10, November 2001. Forecasts for 2002 – Enlargement Paper, April/2002.

* HICP compatible consumer price indices.

** The general government deficit/surplus refers to the national accounts concept of consolidated general government net borrowing/net lending of ESA95. General government debt is defined as consolidated gross debt at end-year.

*** Yields on ten-year government bonds, last months in 2001. Shorten maturity taken for: Bulgaria, Estonia, Latvia, Lithuania, Romania and Slovakia. Source: Enlargement Monitor, Deutsche Bank Research.

Rapid growth should be supported by achieving a low inflation environment, which also calls for enhancing fiscal discipline in Hungary. The disinflation strategy has to be built on the co-operation between fiscal and monetary policies. The two 'pillars' are equally important for an efficient control of aggregate demand and for reduction of inflation. Besides setting the target budget balance supportive for disinflation fiscal policy, the government should pursue cautious incomes policy in order to control domestic demand and expectations. Developments in recent years resulted in an undesirable change in policy mix in Hungary: continuous loosening of fiscal policy eroded the effects of substantial monetary tightening that followed the exit from the crawling exchange rate regime. Excessive fiscal spending has fuelled private consumption more than could be justified on the ground of business cycle considerations. This policy mix is clearly unsustainable in the accession period, when the 'optimal' scenario – minimising the output losses over the disinflation process – would combine not-very-tight monetary conditions with strengthening fiscal discipline.[34]

[34] It is always ineffective if fiscal expansion ought to be restrained by monetary actions. Vulnerability is rising if relatively high interest rates are attractive to speculative capital inflows, while appreciating exchange rate might enforce undesired adjustments in the tradable sector.

Direct fiscal impact of EU accession will prevail through different channels. The EU related transfers could only be benefited from if the absorption capability of the country is strengthened. Availability of EU funding pre-supposes co-financing from the national budget. The transformation of the budget expenditure structure should be guided by approaching EU standards. The EMU accession requires substantial investment expenditures (in infrastructure, environment-protection, agriculture etc.), while the level and effectiveness of current expenditures and social transfers need to be increased in line with the catch-up to the standard of living in the Union. EU accession requires adjustments in the tax structure as well. While further need of increasing excise tax, the harmonization of the VAT tax rates and the cut of tariffs are clearly required before the entry, relatively high growth would allow of more room for manoeuvre in personal income taxation and also concerning the corporate taxes.[35] Nevertheless, tax and social contribution reforms should focus on growth and competitivity conditions. All this implies that, in order to foster growth, a reassessment of the structure and of the components of budget revenues and expenditures is required and budgetary expenditures should be strongly controlled in the period ahead. The spending structure of the budget should fit with the framework of a national development plan so as the fiscal policy could provide sufficient space and incentives for private sector development.

5. Conclusions

Catching up to the level of development of EMU member countries is anticipated to be accompanied by increasing current account deficits and by large capital inflows (FDI and financial investments) in Hungary. In the accession period, which can be considered as the first phase of long-term convergence process, the management of a sustainable regime of high growth and capital flows – avoiding large fluctuations in economic performance, while approaching price stability – constitutes a major challenge for policymakers. Fiscal consolidation will have a decisive role in fulfilling this task.

Further disinflation towards inflation criterion of EMU accession requires strong fiscal support via steady reduction of the general government deficit as a proportion of GDP wich will lead to a cyclically neutral budget position in the longer run. The greatest challenge for the economic policy in this period is to design an efficient fiscal and monetary policy-mix, which might equally foster high activity and disinflation.

In the accession period, to achieve a relatively high, sustainable growth and to maintain external creditworthiness of Hungary need primarily containing the current account deficit within safe bounds, which can be considered as a major guiding rule of further fiscal adjustment. In 2003 the fiscal policy in Hungary cannot avoid of a substantial cut of the public sector borrowing needs in order to return to the previous, steadily decling path of

[35] Company income taxes are attractively low (18 %) in Hungary, though this is not unprecedented (e.g. in Ireland the corporate tax rate is 13 %).

budget balance from the present (above 5 % of GDP) unsustainable level. Further reduction in the public debt ratio would also be benefitial for growth, despite the fact that it has already fallen below the Maastrict criterion. Running a primary surplus in the budget is a definite precondition for achieving the required convergence of general government deficit. Hungarian economy remains sensitive to the external shocks stemming from the emerging markets. In order to maintain a sustainable, strong-growth path and to be able to react flexibly to unanticipated shocks, the fiscal consolidation in Hungary might even go further than strictly needed by the Maastricht deficit criteria.

The appropriate fiscal stance should be designed using a medium-term orientation on a 'rolling' basis, based on conservative macroeconomic projections. The medium-term fiscal stance should be determined based on budget accounts that cover the entire general government and are fully compatible with the requirements of transparency according to the European Union standards.

Fiscal adjustments in the 1990s generally took the form of severe spending cuts, treating the one-off incomes (from privatisation) as financing item when deficit targets were determined. In the accession period fiscal policy should focus on fiscal consolidation in contrast of crises management that dominated the previous decade. Recovery of growth in the late 1990s opened a new period (interrupted in 2001-2002), which could be characterized by modest reflux of revenues, leading to new 'options' in public finance. In coming years fiscal discipline still should continue be strengthened, partly as a correction of recent loosening, partly in order to meet EMU criteria of convergence. At the same time, however, a new philosophy of public finance might gradually gain ground with an emphasis on expanding revenues by lowering taxes rates and reducing tax evasion, replacing the priority of serious spending cuts of adjustments in 1990s. Tax reduction should, however, always respect the balance that was determined in a medium-term perspective. Changes on the expenditures side can be foreseen: budget expenditures might be preferred to be controlled by rules and the EMU accession implies excess budgetary expenditures for absorbing the available EU funding, which might make expenditures 'ceiling' harder regarding other spending.

Further strengthening of fiscal discipline is a precondition for EMU membership. Nevertheless, it is important to see that, the continuation of fiscal consolidation in the period ahead is basically required by Hungary's balanced development and sustained catch-up to the level of the union, independently from the prospect of EMU accession.

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Capital Markets in Hungary and EU Convergence

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1. Introduction

The Hungarian capital market once was considered as an emerging market, currently mostly labelled as a converging one. A few years before the EU entry these labels will likely to remain, however with EU and at a later stage with EMU membership, that categorization may not be valid for long. It is highly important to evaluate the years before the EU entry, and EMU entry if we would like to assess the future of the Hungarian capital markets. What are the factors those give us guidance in evaluating the future developments? First of all, as the local capital market can never develop independently on its own ways, but it is embedded into the domestic economy – and also into the global capital markets –, it is worthwhile to have a view on how the Hungarian economy will develop over the next years. Then an in depth analysis of the current situation of the Hungarian capital markets follows. The local stock and the bond markets have developed along markedly different paths – therefore investigation goes separately. Equipped with rudimentary view, we can shift to evaluate the impacts of the EU accession. In evaluating the future prospects of the capital market again, we investigate the potential changes in the framework of the market and the composition of the supply side and the demand side. In doing so we have a look at some international examples: the recent accession of Austria; Finland and Sweden into the EU; the impact of the EMU on Greece etc. Although we are aware that all the examples have only limited explanatory value, as most of the circumstances are different in our case.

2. Assessment of the macro environment for the time frame of the study

In order to evaluate the future of the Hungarian capital markets, we should be equipped with a view concerning the Hungarian economy's development through the time-frame of our study. The Hungarian economy has been set to a strong growth path since 1997. In the last five years (1997-2001 period) average annual GDP growth was 4.6 %. We calculate that in the next years, strong economic growth would remain: on average 4.3-4.5 % annual real GDP growth rate is seen as sustainable. Joining to the European Economic and Monetary Union is a high priority policy target for Hungary. In order to achieve this aim, Hungary has to meet all the "Maastricht" criteria. This would suppose further declining inflation rate, and decreasing public budget deficit. Ultimately, we assume that Hungary may join to the EMU by 2007-2008 as the earliest. Along with strong economic growth, we expect further growing real wages and an improving savings ratio derived from higher net disposable income at the

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macro level. Household financial assets/GDP ratio increased from around 40 % in mid-1990's to 50 % by 2001, we expect this trend to continue and to reach 60-65 % by 2005-2007. We also expect that the structure of household savings is going to shift towards EU patterns: traditional bank securities will loose some ground, while alternative investment forms (mutual fund, pension fund; securities etc.) are getting more popular.

Summing up: strong economic growth; decelerating inflation rate; diminishing interest rates; increasing wages and savings; gaining popularity of security type of investments; declining public deficit will characterize the next years of the Hungarian economy.

3. Recent Developments, current capital market situation

3.1. Bond Market overview

For a CEE transition economy, Hungary has a comparatively long history of debt capital markets. Capital markets have started to develop with corporate bond issues already in the second half of the 1980's. The first T-bills were issued in 1990. The introduction of a European-standard system of institutions allowed the issuance of government bonds at increasingly longer maturities, simultaneously with the decline in inflation. Steady improvement in the country's credit rating and the expectations of gradual convergence towards European yields have been attracting an increasing number of investors to the Hungarian government securities market. In the wake of the foreign exchange liberalisation measures, the risk management of forint-denominated government securities is becoming an option for an increasing wider circle.

Corporate sector bond issuance activity is made up by sporadic bond issues of some of the largest corporations (i.e. MOL; Pannon GSM; Matáv). Financial institutions' own bond issuance is getting more active (recent bond issues: RaiffeisenBank; CIB; FHB; MKB), and there are increasing number of municipal bond issues however the amount issued is extremely low. The Hungarian corporate bond market is still immature. There are several explanations for that, but the problems can be found on both the supply and the demand side. The crowding out effect of the state is overwhelming. The corporate sector of the Hungarian economy lacks eligible candidates for a successful bond issue (as the size of a liquid bond series would be around HUF 100bn – none of the corporate bonds reach that level – moreover there is a overrepresentation of multinational companies' affiliates amongst the largest Hungarian companies – these would find easier way of financing (i.e. inter-company loans). Most companies still prefer the traditional way of taking out commercial loan that is facilitated by a competitive banking sector. As none of the corporate bonds can reach the liquid size, institutional investors' appetite is rather limited.

3.1.1. Description of current market mechanism (institutional/regulatory framework of the market)

During the past decade significant regulatory and institutional measures were introduced to improve the efficiency of the local fixed income market. Initially the NBH and the Ministry of Finance were actively involved in government debt management. In 1995 the GDMA (Government Debt Management Agency) started to take over all debt management related functions, and a primary dealership system was introduced in 1996. Since that time, marketable debt instruments have become the primary focus for the government's debt management that brought a spectacular upswing of the LCY debt market. The establishment of the primary dealer system in 1996 also contributed to a higher transparency and liquidity of the secondary market for government securities, due to the dealers' obligation to quote bid and offer prices on a continuous basis[1]. Secondary market transactions are done either on the BSE (based on clean prices) or, more commonly, on the OTC market (based on the yields quoted). Restrictions for foreigners to invest in Hungarian government securities have been gradually removed in line with OECD requirements[2]. The institutional framework of Hungary's capital market is basically in line with international standards. Hungary has implemented a new Capital Market Act in January 2002. This is almost fully compatible with the EU regulations – some minor changes would come after EU accession.

Currently the following instruments are available on the Hungarian government bond market:

- T-bills (up to 12 months zero coupon)
- T-bonds (2, 3, 5, 10, 15 years fixed). The 10-year fixed rate band was introduced in January 1999, the 15-year in November 2001.
- 7-year and 5-year floating rate government bonds
- Derivatives and swaps

3.1.2. Capitalisation, liquidity and maturity

The Hungarian fixed income market appears to be rather small compared to its CEE peers. The capitalization of the Hungarian bond market is much smaller than the Czech and the

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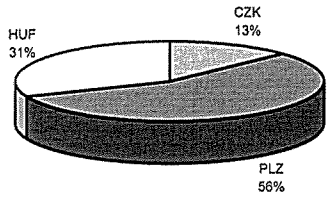
[1] The main objectives of the primary dealer system are to increase the financing safety of government securities placements through primary dealers' active participation in the market and to make sure that the dealers maintain a liquid and open secondary market for investors through their continuous presence and price quotations.

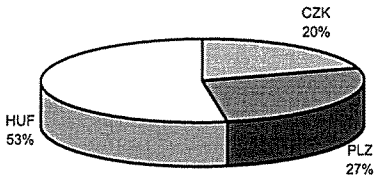
[2] Until summer 2001 foreigners were banned from buying government securities with a maturity of less than one year. Nevertheless, from 16 June 2001 on full currency liberalisation lifted all restrictions, which led to the development of a local currency Eurobond market and an onshore swap market, which allowed foreign investors to hedge their currency risk.

Polish markets. The Hungarian market accounts for 18 % of the total capitalization in Hungary, the Czech Republic (26 %) and Poland (56 %). When excluding corporate debt, Hungary's position in the CEE-3 region improves considerably. (This underpins the fact that the Hungarian corporate debt market is severely underdeveloped).

Capitalization of CEE fixed income markets*



Capitalization in relation to GDP



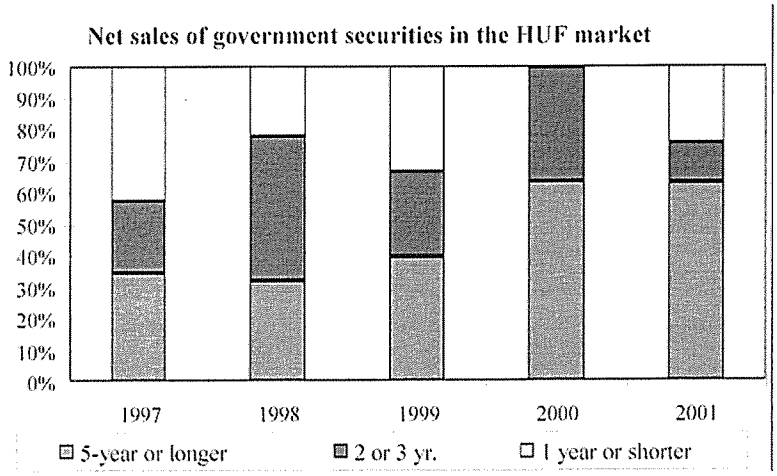
Source: RZB Research (*excluding corporate bonds).

Current liquidity in Hungary is quite encouraging, especially in CEE comparison. Average bid-ask spread in Hungary is 8 Bp for benchmark bonds and 12 Bp for other government bonds. In Poland the spread amounts 17 Bp and 18 Bp in the Czech Republic. Benchmark bonds have the highest liquidity. The 3-year benchmark ranks on top of turnover figures. Liquidity of the 5-year benchmark was increasing steadily over the two years, and turnover reached the size of shorter maturities, while the long-term segment is still lagging behind in terms of liquidity and total amount outstanding.

The corporate bond market continues to be very illiquid (only few benchmark bonds) and investors usually hold their security until maturity. Even large issues listed on the Budapest Stock Exchange often remain un-traded for weeks, even months. Smaller issues exchange hands on the OTC market, so it is difficult to trace their liquidity, but their market sentiment is similar to that of those listed on the BSE.

Increasing macroeconomic stability and a correspondingly improved rating has enabled a gradual lengthening of the maturity structure. The longest newly issued government bond has a maturity of 15 years. Currently the maturity profile is concentrated in bonds expiring within the next three years.[3]

[3] This development peaks in 2003 when app. 20 percent of all outstanding debt matures. In 2007 the maturity profile is quite low, turning up again in 2013. However, in 2002 the share of 0-3 year issues will increase from 45 % to 63 % of total, which is slightly diluting the maturity profile of new debt in 2002, but this effect will be compensated by the new 15-year benchmark and the increasing relevance of the 5-10 year issues.



Source: National Bank of Hungary

3.1.3. Yield development – ownership patterns

In the past 5 years the Hungarian fixed income market has developed rapidly in terms of available instruments and liquidity of the market, which was reflected in a dynamic yield development.[4] The following key elements had a significant impact on the yield development:

a) Improving macroeconomic stability – declining inflation rates[5]

b) Changes in the monetary policy – gradual reduction of interest rates, changes of the FX regime

c) Gradual opening of the market and increasing involvement of foreign investors

d) EU-accession process

With the gradual liberalisation of the market and the improving country risk ratings, the involvement of foreign investors increased. This enhanced the liquidity further and led to a significant reduction of the risk premium. The gradual improvement of the credit rating and the prospect of EU-accession brought the appearance of convergence investors. The change of the perception of Hungary from an emerging market to a convergence market reduced the susceptibility of the country to emerging market crises. With abolition of the crawling-peg system and the widening of the currency band to +/- 15 % in summer 2001 the

[4] Institutional changes, like the introduction of the Primary dealer system supported this development.

[5] Following the crisis in 1994-1995 and the introduction of the stabilisation and austerity measures ("Bokros-package"), the macroeconomic fundamentals in Hungary improved almost continuously. The improving macroeconomic stability was accompanied by improving confidence in the sustainability of the economic development. Improving country risk ratings Hungary received from international rating agencies reflected this.

yield development and the shape of the yield curve is increasingly driven by the spread to the EU benchmark yield level.

The largest investors in government securities are banks and domestic institutional investors, who mainly invest in government bonds. The share of foreign investors has increased significantly since 1997.[6] Among domestic participants the ownership structure is as follows: commercial banks own app. 21 %, households 4 %, corporates 16 %, insurance companies 11.5 %, investment funds 11.4 % and close-equal shares of investment and pension funds 6 % and 5 %. Retail investors account for 14.5 % of the total government securities outstanding. Households continue to mainly invest in short-term retail securities of the government, while T-bonds only account for a smaller part of their investment portfolios (app. 10 % of the total portfolio). Credit institutions and domestic institutional investors account for the majority of the secondary market turnover.

3.2. Stock market overview

This section investigates the current status of the Hungarian stock market. It deals with both the underlying technical preconditions and the current development status in comparison to the EU and EMU areas. On the basis of this analysis, the subsequent sections will cover potential future developments.

3.2.1. General market situation – comparisons

Market conditions have changed dramatically since the foundation (or rather re-opening) of the Budapest Stock Exchange (BSE) in 1990. While initially the main focus was put on privatisations, the BSE realised the need of continuing sophistication at a very early stage and therefore gradually adjusted to international standards, supported by cooperations (ISMA, FESE, FIBV, FISD/IIA, etc.). Given the short period since the start of the transformation process, it becomes obvious that massive efforts and commitment to reform were required to attain this degree of sophistication. Meanwhile it can undoubtedly be said that the Hungarian stock market certainly ranks among the most sophisticated CEE exchanges in terms of market mechanisms. The well-defined set of technical requirements, settlement procedures, listing requirements and the legal framework (e.g. protection of minority shareholders) are largely in line with Western standards. As a result, there are no restrictions hampering domestic capital market transactions or those originating from abroad.

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[6] Since the capital account liberalisation in June 2001 foreign investors became the largest group in the segment of maturities of up to one year. They are holding more than 30 % of total publicly issued government bonds. In June 2001, investments in government securities accounted for one-third of total foreign portfolio investment compared to 4 % at the end of 1997.

	Large Scale Privatisation	Governance and Enterprise restructuring	Banking Reform and Interest Rate Liberalisation	Securities Markets and Non-Bank Financial Institutions	Deposit Insurance System	Secured Transactions Law	Securities Commission
Czech Republic	4	3+	4-	3	yes	restricted	yes
Hungary	4	3+	4	4-	yes	yes	yes
Poland	3+	3+	3+	4-	yes	yes	yes

Source : Transition report 2001, EBRD

Sufficient market capitalisation is of utmost importance for the stock exchange, and it is the precondition for sufficiently high liquidity in the securities traded. An analysis of these two factors on the Hungarian stock exchange shows the extent to which investors are aware of the development mentioned above. To this end, the market capitalisation (shares) of all CEE exchanges was compared to Hungary both on an individual basis and broken down by cooperation (Euronext) as well as in the aggregate (EU, EMU, EU ex EMU). Furthermore, Poland and the Czech Republic were added to facilitate comparison.

Relative Stock Market Capitalization (Main & Parallel Markets) - March 2002

		Budapest	**Warsaw**	**Prague**
		in % to the other Stock Exchanges		
in USD mn.	**MC ****	11,199.12	27,340.33	11,637.81
Athens	74,765.23	14.98%	36.57%	15.57%
Copenhagen	87,360.32	12.82%	31.30%	13.32%
Deutsche Börse	1,094,147.26	1.02%	2.50%	1.06%
Euronext *	1,920,389.95	0.58%	1.42%	0.61%
Helsinki	172,216.30	6.50%	15.88%	6.76%
Irish	67,890.42	16.50%	40.27%	17.14%
Italy	540,504.23	2.07%	5.06%	2.15%
London	2,139,935.35	0.52%	1.28%	0.54%
Luxembourg	28,334.51	39.52%	96.49%	41.07%
Madrid	482,081.68	2.32%	5.67%	2.41%
Stockholm	228,585.04	4.90%	11.96%	5.09%
Vienna	26,067.35	42.96%	104.88%	44.65%
EU	6,862,277.64	0.16%	0.40%	0.17%
EWWU	4,406,396.93	0.25%	0.62%	0.26%
EU ex EWWU	2,455,880.71	0.46%	1.11%	0.47%
Budapest	11,199.12	100.00%		
Warsaw	27,340.33	40.96%	100.00%	
Prague	11,637.81	96.23%	234.93%	100.00%

* Euronext consists of Amsterdam, Brussels, Lisbon, and Paris figures
** Market Capitalization Ultimo March 2002
Source : World Federation of Exchanges Members, local Stock Exchanges, RZB Research

What strikes the eye in this respect is that the relative size of the CEE exchanges and in particular that of the BSE is comparatively small. The effects of EU or EMU accession of these countries therefore are fairly marginal for the EU-wide stock market. The comparatively low market capitalisations are often attributable to the size of the countries and the short

period since foundation of the stock exchanges (the Frankfurt Stock Exchange, by contrast, was founded in 1585). Furthermore, the listing requirements in the case of Hungary – at least for the official segment – are even slightly stricter than those of its Western peers. Equally important is the role of the capital market as a source of corporate finance – it is by far not as developed as on established stock markets. The primary reasons are stricter regulations and comparatively higher costs (in contrast to the refinancing methods that are currently prevailing, namely intercompany loans, credit financing via local and international banks as well as listings on foreign stock exchanges). This comparison becomes more meaningful if the size and economic sophistication of the country is taken into account, too.

Stock Market Capitalization (Main & Parallel Markets) rel. to GDP

in USD mn.	MC **	GDP ***	% des GDP
Athens	74,765.23	122,862.15	60.85%
Copenhagen	87,360.32	169,860.64	51.43%
Deutsche Börse	1,094,147.26	1,883,779.52	58.08%
Euronext *	1,920,389.95	2,072,773.57	92.65%
Helsinki	172,216.30	127,838.96	134.71%
Irish	67,890.42	89,919.95	75.50%
Italy	540,504.23	1,128,052.63	47.91%
London	2,139,935.35	1,507,161.57	141.98%
Luxembourg	28,334.51	20,779.73	136.36%
Madrid	482,081.68	604,517.41	79.75%
Stockholm	228,585.04	212,681.12	107.48%
Vienna	26,067.35	194,727.61	13.39%
EU	6,862,277.64	8,134,954.88	84.36%
EWWU	4,406,396.93	6,245,251.55	70.56%
EU ex EWWU	2,455,880.71	1,889,703.33	129.96%
Budapest	11,199.12	51,100.00	21.92%
Warsaw	27,340.33	176,400.00	15.50%
Prague	11,637.81	55,800.00	20.86%

* Euronext consists of Amsterdam, Brussels, Lisbon, and Paris figures
** Market Capitalization Ultimo March 2002
*** GDP 2001; Hungary, Poland and Czech Republic based on RZB estimates
Source : World Federation of Exchanges Members, Thomson Financial Datastream, RZB Research

On this count, it becomes obvious that the as all transformation countries', the Budapest Stock Exchange is also far behind the established European exchanges, but the gap is no longer extremely wide. As already mentioned above, apart from market capitalisation also stock market liquidity is of essential importance, since it constitutes a pivotal decision criterion for investors. If the liquidity is too low, financially strong investors (e.g. large investment funds) cannot purchase and sell securities without causing violent and negative price fluctuations. Therefore, markets with low liquidity are not very attractive.

in USD mn.	VALUE OF SHARE TRADING (Main & Parallel Markets)	Market Cap. (Main & Parallel Markets)	in % of Market Cap.
Athens (TSV)	37,731.89	84,751.70	44.52%
Copenhagen (REV)	72,365.45	85,145.50	84.99%
Deutsche Borse (TSV)	1,439,902.75	1,071,748.73	134.35%
Euronext *	3,179,788.55	1,843,528.63	172.48%
Helsinki (TSV)	181,568.39	190,455.82	95.33%
Irish (TSV)	22,735.60	75,298.24	30.19%
Italy (TSV)	710,217.90	527,396.49	134.66%
London (REV)	4,550,503.55	2,149,501.02	211.70%
Luxembourg (TSV)	702.90	22,710.36	3.10%
Madrid (REV)	842,227.10	468,203.21	179.88%
Stockholm (REV)	386,730.11	236,514.36	163.51%
Vienna (TSV)	7,699.55	25,204.35	30.55%
EU	11,432,173.74	6,780,458.39	168.60%
EWWU	6,422,574.63	4,309,297.51	149.04%
EU ex EWWU	5,009,599.11	2,471,160.88	202.72%
Budapest (TSV)	4,834.00	10,209.52	47.35%
Warsaw (TSV)	9,886.60	26,016.53	38.00%
Prague (TSV)	3,613.89	9,546.89	37.85%

The sale & purchase of a share are counted as one transaction; Data are based on ultimo 2001
REV - Regulated Enviroment View; TSV - Trading System View
* Euronext consists of Amsterdam (REV), Brussels (TSV), Lisbon (TSV), and Paris (TSV) figures

Similar to the table analysed above, this point is better illustrated by means of a relative comparison. As a valuation criterion of a stock exchange, the absolute value of share trading only makes sense if it is related to the market capitalisation. It is noteworthy that a relative comparison paints a different picture. Hungary boasts a good ranking in the middle range compared to smaller markets in Western Europe. These comparisons show that the transformation process into a fully-fledged capital market of Western dimensions has already reached an advanced stage. However, to put Hungary's ratio into perspective, it has to be noted that the trading volume peaked in 1998 (Russian crisis) and shrank substantially thereafter until 2001 (bear market on international stock exchanges). The trading volume only started to pick up again in 2002.

The Budapest Stock Index (BUX): The most important benchmark for shares on the Hungarian equity market is the Budapest Stock Index (BUX),[7] The weight of each individual stock basically depends on its stock market capitalisation, but in May 1999 (effective October 1999), this system was adapted to account for free float as well.[8]. To adjust the basket to the prevailing market conditions, it is reviewed, re-weighted and, if need be, adapted twice a year (1 April and 1 October). Most of the trans-regional equity benchmarks (such as those

[7] The BUX which started at 1,000 points in January 1991. Price ticks are recorded at 5-second intervals. The BUX reflects changes in market capitalisation resulting from movements of share prices that constitute the "index basket". This index basket is a proxy for a theoretical market portfolio designed to reflect the structure of the equity market and is hence composed of the largest and most liquid stocks.

[8] Free float in this case refers to all shares that are not owned by the company itself, leading representatives or employees thereof, nor by the state or investors who hold a stake of more than five percent in the company.

provided by MSCI, FTSE, DJ and S&P) will completely change over to a weighting methodology based on free float from the end of May 2002 onwards. The Hungarian BUX Index anticipated this development already in May 1999. This shows that the Hungarian stock market not only follows the lead given by Europe, but at times even takes on the role of a forerunner. The reason was that the BSE increasingly tried to implement an adequate structure in line with the continuing trend towards uniform appearance of the European capital market and therefore embarked on the same strategy early on. Nevertheless, the free float is still underdeveloped in the transformation countries; still, Hungary tops the league table with about 53 %. This percentage can be employed to explain the higher trading volume (in relative terms).

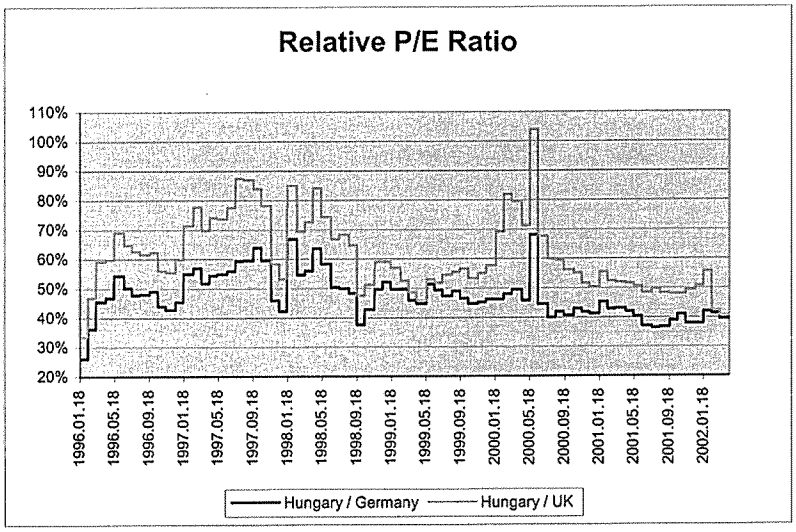
	Free Float Stake *
Hungary	53%
Poland	35%
Czech Rep.	30%
Österreich	40%
EU	79%

* estimated values
Source : RZB Research

3.2.2. Integration and ownership structure

Bearing in mind that the CEE countries will accede to the EU fairly soon, one could think that the CEE markets in question should already be integrated to a large extent. The degree of integration can be gauged from the parallel development (correlation) of the share indices and the pertinent valuation levels.[9] The strong correlation between Hungary and the DJ Euro Stoxx Index is particularly striking. It should be added that the trend is less volatile than in an intra-regional comparison. Correlation is a good indicator of a market's integration, but also the valuation differentials and their development over time should be taken into account. We have employed historical time series of 12-month forward PE (Price/Earnings) and related the ratio of Hungary to that of Germany and the UK. This trend then allows to draw conclusions as to whether the valuation levels have already converged. A value of 100 % denotes equal valuation levels.

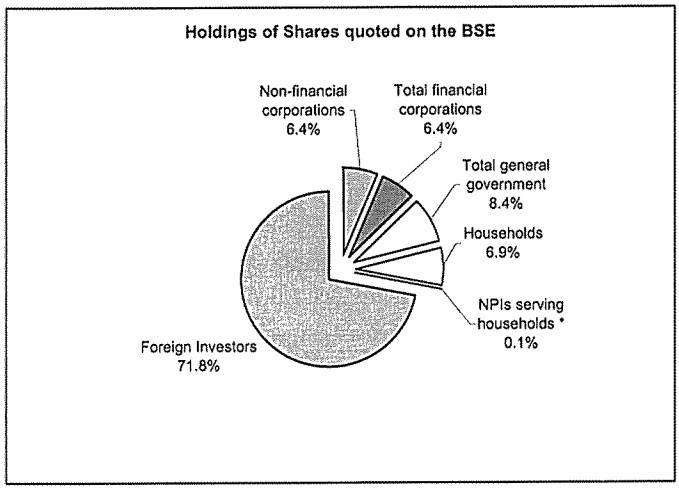
[9] Given the higher volatility, we have used a 260-day correlation (→ 260 trading days) to somewhat smoothen out more violent fluctuations. To avoid distortions resulting from exchange rate fluctuations, the correlation was calculated on the basis of local currencies.



Source: RZB Research

The graph shows that the valuations constantly converged until H1 1998 but widened again during the Russian crisis. The second peak was reported in Q2 2000, when the TMT euphoria also drove CEE stocks higher. Nevertheless, similar to all other CEE markets, the Hungarian stock market exhibits a risk discount that is due to the relative size of the companies and the market as well as the lower liquidity. The political risk – investors' uncertainty with a view to political objectives of the people's representatives and their political stability – is no longer predominant in Hungary, since the country has been very stable for quite some time. However, with the approaching EU accession and, therefore, EMU entry, even the residual risk will continue to decline in importance (similar to the currency risk).

The proportion of foreign investors is extraordinarily high compared to domestic investors. Furthermore, foreign investors gave the BSE a strong stimulus and boosted the trading volume. The share of foreign investors peaked at slightly above 80 % in March 2000. When the TMT bubble burst on international markets, foreign investors' risk appetite declined, and the proportion of shares held by foreigners fell rapidly (to about 70 % at the end of 2000). However, since the end of 2001, foreign activities on the Hungarian stock market have been on the rise again (to a current level of about 75 %), which is reflected in a noticeable increase in volume and not least in higher share prices.



Source : National Bank of Hungary, RZB Research, June 2001

Institutional investors are important for the Hungarian stock market, even though shares mostly account for only a low percentage of their overall asset allocations.

Percentage of Hungarian Shares of Total

	1999	2000	June 2001
Investment Funds	4.6	5.5	3.5
Life Insurers		6.4	5.2
Private Pension Funds		14	14
Voluntary Pension Funds		11.5	10.3

concerning Hungarian non-bank financial Institutions

Source : National Bank of Hungary

Overall, it can be said that the three types of institutional investors have become even more risk-averse in spite of their conservative approach, as all of them have further scaled back their holdings of shares and corporate bonds. This trend was not least triggered by massive declines on the local stock exchange, which subsequently led to capital outflows from funds. However, it should be stressed that this phenomenon is not country-specific. Both the CEE countries' established and regional exchanges were affected, with the latter suffering even less.

4. Capital Markets and the European integration

As far as the regulatory framework is concerned: the new 2002 January Capital Market Act is already fully EU compatible – therefore no changes are expected before the EU accession. Nevertheless, there are some institutional changes in sight, the "market place" is under some modification. Meanwhile, the global developments and the regional convergence issues, severely reshape the supply and the demand side in the upcoming period. The accession to the EU and the EMU are not the only factors affecting the future development in this context.

The fact that Hungary's capital markets become further integrated into the European capital markets will have a significant impact on its competitive position. Hungary is likely to follow a debt management strategy and introduce measures that will enhance the competitive position of Hungary within the circle of its European peers. This, of course, will not happen overnight, but will rather be a gradual process, which has already started and will go beyond EU and EMU accession.

4.1. Bond Market ahead of EU entry

4.1.1. Potential institutional and regulatory system changes

Some lessons can be drawn from previous accession candidates. Like Hungary is already intending now, other bond markets of today's EU and Euro zone have introduced measures to enhance the liquidity of its government bond markets. The number of issues were reduced to increase the volume and the correspondingly the liquidity of the single issue. A measure which was introduced in Austria to increase the attractiveness of its bond market was to improve the distribution channels for government bonds: whereas only a few local market participants were originally allowed to take part at the bond auctions, the group of dealers was increased by allowing foreign primary dealers to participate as well.[10] In the wake of further capital markets integration a similar development is likely to occur in Hungary as well. Today, only a limited number of local market makers take part in the primary dealing. The financial authorities might decide to enhance distribution and liquidity by authorize an increasing circle of auction participants. Ahead of the EU entry the current primary dealership system itself may not change dramatically. It is a question whether the regulation on the membership itself will change prior or only after the EU accession. Nevertheless, with EU entry some modifications are likely to happen as far as the composition of the Primary Dealership System is concerned. There is likely to be a green light ahead of foreign participants.[11]

Also there are some ongoing institutional developments that characterize the LCY bond market: Price quotations margins are going to get thinner through improved liquidity of larger size bond series, and a more active secondary market. There is an aim to boost the size of each sovereign bond series to the minimum level of EUR 1 bn. The benchmark calculation will get modified and would mimic the practices used in the EU member states.

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[10] This in turn had significant consequences for Austrian banks: The ones, which were the sole dealers before increasing the number of participants, were able to earn remarkable profit on this business. Once increased competition occurred and the need for foreigners to approach Austrian dealers ceased, this source of profit faded away.

[11] It may come in the form of a two-level primary dealership system, where local participants would retain full membership, while foreigners would obtain limited licenses (market makers like in Portugal), or even in the form of full membership. A decision is not made yet by the GDMA, nevertheless, there is a strong intention to make accessible GDMA auctions and the Hungarian government bonds trading also for foreigners in the future.

The trading platform is intended to be modified. The current MMTS system is not adequate to serve both Budapest based and foreign market players. Either new trading platform will be introduced, or the current MMTS system should be enhanced. In addition, it is likely that Hungarian issues will be traded increasingly on non-Hungarian platforms. Previous accession countries likewise entered pan-European respectively pan-Euro-zone trading platforms.[12]

Issuance techniques will be modified. Currently auctions are held too frequently. It is not helpful for the development of the secondary market as the market attention is focused too much on these events – not leaving enough room for the development of the secondary market. Moreover the size of each auction is probably too small. In order to improve the liquidity, less frequent auctions should provide with much larger size.

Otherwise it is the intention of the GDMA to come out with larger bond series. In order to provide sufficient liquidity at the pan-European market, each bond series should reach the size of minimum EUR 1bn. (even an EUR 5bn size is considered as adequate). With larger series, the current auction technique may be altered: a complex syndication plus auction technique may come as the example in the EU. Another thing is the lengthening of the duration. The focus is going to be slowly shifted to longer maturity bonds.

4.1.2. Supply and demand

A strong intention of the issuer is to lengthen duration of the outstanding government debt. In order to meet the Maastrich criteria public budget deficit should shrink below 3 % of GDP. It is a question, whether the whole of the state financing will be covered by HUF denominated government debt issues or GDMA will have a policy mix and tap international capital markets as well with Eurobond issues. It is also a question whether the maturing foreign currency denominated debt of the Hungarian state will be renewed by similarly foreign currency denominated securities, or the practice adopted in 2002, when the decision was made to finance it with HUF denominated securities will remain. Decisions at the level of policy making have not achieved yet (or not made public). According to the GDMA, the net financing requirement jumped from HUF 691bn in 2001 to HUF 971bn in 2002. It is assumed that (nominally) the supply side of HUF denominated public debt will not dramatically change in the years ahead of the EU accession. Also, one can expect that the shift towards longer maturities will continue on, and the within one year maturity securities' role decrease.

Accession to the EU, to the EMU and increased competition due to further integration will be the milestones of the further development of the Hungarian bond market with respect to

[12] In April 1999 the pan-European platform Euro-MTS was established for bonds of the countries of the EMU. 85 bonds are currently traded on this platform, with a minimum volume of EUR 5 bn. In addition, Austria for example decided to issue Austrian bonds at the French exchange for bond-futures (MATIF).

European integration. With the final date of EU accession to come closer, the investor profile will change accordingly. The high yield / EMEA investor category will gradually be replaced by EU funds. Partly, this development has already occurred. Funds, which initially focused on EU, now increasingly invest to a small extent in CEE bonds. With EU accession, Hungary will become part of the European universe. However, two factors will influence the capital flows to the Hungarian bond market and it is not yet sure what the overall effect will be. On the one hand, non-EMEA funds will enter the market more and more. On the other hand, present emerging market investors will leave the Hungarian market and move to other countries, which offer the corresponding risk/reward profile – i.e. less developed transition economies.

Two scenarios are possible regarding the development of foreign investors' demand: 1) The amount of foreign capital inflow into the Hungarian government bond market will increase. The decrease of EMEA funds' capital will be over-compensated by an increase of European funds. 2) The decreasing amount due to reduced EMEA funds can't be over-compensated by other sources. Today's level of investment by European funds will not increase accordingly or it even might become less. The improving liquidity won't provide sufficient investment incentives to compensate for the decreasing spread and the less attractive FX-development (gradual appreciation in the past, which offered interesting profit opportunities beyond decreasing yields).

Should scenario 2) in fact materialise, it will be important for the Hungarian bond market to attract sufficient funds from domestic investors. Expected increasing domestic savings should compensate for a possible decreasing foreign demand. It is not certain yet to what extent these domestic funds will flow into the Hungarian government bond market. European capital market integration implies regional diversification for local investors as well. At least regulation – in line with EU-adjustment – will provide for increasing investment abroad. It will then depend on the actual investment decisions by local institutional investors whether to invest in domestic or in foreign assets.

Another factor shaping the yield pattern in the wake of further European capital markets integration is the entry into the European Economic and Monetary Union – and the corresponding expectations before accessing the Euro zone. First of all, expectations regarding the actual date of EMU accession will shape the yield development. In this context the macroeconomic development will play a crucial role as well. Depending on the actual development of interest rates and inflation rates and the expectations of market participants for these parameters will the decline in yields occur at a slower or faster pace.

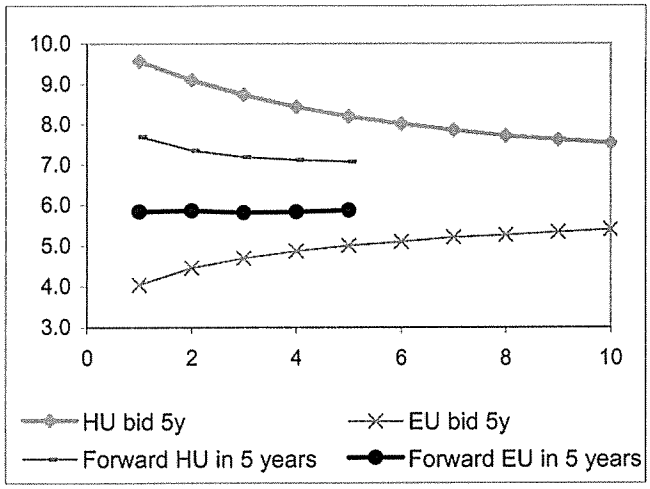
The credit risk is expected to decrease further. At present, the average spread between Hungarian EUR-denominated government bonds and the Euro benchmark curve amounts app. 45 bps. Greece (A2/A) has a similar rating like Hungary (A-/A) with an average spread to the Euro benchmark curve of 30 bps. Further adjustment is expected with respect to

adjusting premiums Furthermore, the rating is likely to improve. For 2007 a rating of AA (-) is likely. This will contribute to a declining spread accordingly.

The exchange rate risk will decrease as part of the further convergence story and cease to exist upon EMU entry. The closer the date of EMU accession, the smaller the amount of uncertainty regarding the actual exchange rate which will be the entrance level for Hungary.

In line with further decreasing inflation interest rates will decrease accordingly.

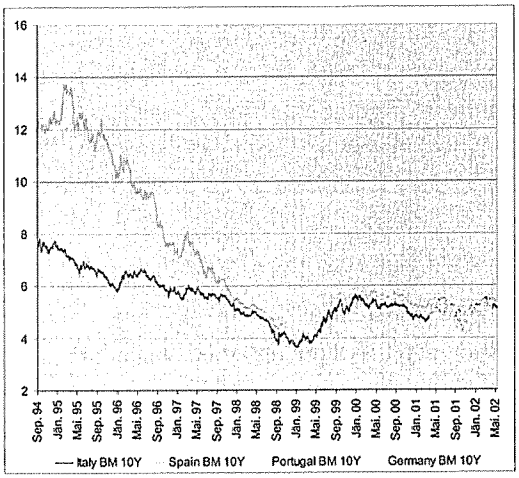
Overall, the convergence process will cause investors to demand decreasing yields. Partly investors have already priced this development in. The interest rate swap market allows investors to trade based on expectations of interest rate moves. As euro membership comes closer, so the expectation that the convergence of interest rates becomes greater. A measure of this is five-year forward rates, or five-year rates in five years' time as implied by the current yield curve. This indicates the expected differential between the candidate country and Germany five years on. These numbers indicate that the convergence is not fully priced in for 2007 (possible EMU entry).



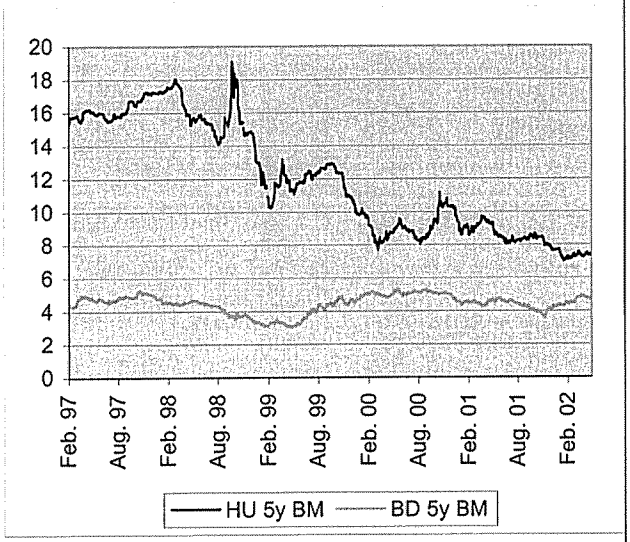
Source: Reuters, own calculations

How was the convergence path shaped in other accession countries? As you can see from the following graph, the process of converging yields took much longer in the three Western European countries in consideration (Italy, Spain, Portugal) – compared to Hungary's yield development.

Convergence Story in Southern Europe



Convergence story in Hungary



Source: Thomson Financial Datastream.

Three years before becoming Euro members the spread to German bonds was between 4 and 6 percentage point in the three selected countries. Today the spread between Hungarian and German bonds is below 3 percentage points, although accession to the EMU probably lies ahead more than three years. Several factors contribute to this phenomenon. The behaviour of international market players has changed since previous rounds of accession. The markets have the experience of previous developments in mind. However, one has to consider the fact that the EMU accession in Southern Europe was less certain. Until one year before Euro-zone entry a large amount of uncertainty about the timetable was contributing to the slower yield convergence. (At present, the timetable 2007 as a potential EMU accession date for Hungary is not fully priced in. Any change in the timetable might weaken the bond market temporarily, but the fact, that this date isn't priced in, a reasonable delay shouldn't affect the markets too negatively.) The risk in Hungary is that expectations regarding EMU entry will lead to an overshooting with an associated spread, which will be lower than the liquidity premium would justify. Previous EMU accession experience demonstrated such a development. Until the beginning of the EMU – or until the official announcement of the participating countries – the spreads between government bonds shrank in line with the convergence process and a diminishing exchange-rate risk. However, upon entering the EMU, yields have not converged further. In fact, after entering the Euro zone, most yields started to slightly rise compared to German yields.

The rating differences in the Euro zone countries are considerably small. The spread over a German bond with the same maturity demanded by investors is mainly based on the different levels of liquidity of the national bond markets. It therefore seems obvious to expect a liquidity spread for Hungarian bonds accordingly before and after EMU accession.

The regression analysis demonstrates that liquidity proves to be the dominant factor behind yield spreads in the Euro zone. Austria, for example, has the same rating as Germany (AAA), but it has to pay a higher yield premium.[13] With further convergence and improving rating the Hungarian market will increasingly be valued by only one factor: By its liquidity. In order to reduce the financing costs of the Hungarian government in the future, it is inevitable to proceed with the current trend of improving the liquidity of the market.

4.1.3. Private debt market perspectives

Whereas we can find a strong will from the side of the GDMA to enhance efficiency of the sovereign debt market in order to become competitive on the pan-European markets, there are little similar moves detected on the side of the private issues. Though some development of the corporate bonds; municipal bonds; financial institutions' bonds can be expected, these bond issues will not reach the critical mass of becoming liquid assets. As in the past years, the corporate bond market was not able to become flamboyant, we see little evidence that this situation might change. The rudimentary problems of the underdeveloped market are not seen to get healed (structure of the corporate sector; etc.). Nevertheless, there are still some encouraging signs that make us to believe that this market segment may develop. As the economy continues to grow the corporate sector will have increased financing needs. According to western practice, banks alone cannot take upon themselves the financing of the entire sector, which will automatically lead to the securitization of existing debts and entering the capital market for new ones. As Hungary continues to converge to the European Union, its risk classification will likely improve, which in turn improves the risk of Hungarian corporate issues. As far as the corporate bond issues are concerned we can witness, that there is an emergence of regionally significant Hungarian companies ("regional multinationals"). For example MOL, Matáv, Richter Gedeon etc. are becoming important regional players with further plans of regional expansion. This drive makes these companies eager to find alternative financing methods, among others in the form of HUF bond issuance programmes. Given the size of these companies, it is not unrealistic to believe that in the near-term future, they will enter into some large bond issue programs (HUF 50-100bn). Also, some medium sized Hungarian companies may find a bond issue as a good alternative versus traditional bank loans. Albeit, these latter bond issues are not likely to reach sufficient size, there may still exist some methods to sell these securities. Alongside with the development of the Hungarian financial sector, the financial institutions are likely to tap more frequently the domestic capital markets with their bond issues. The financial institutions may provide their network for the securing the successful sale of these issues, of the size of HUF 10-50bn.

As long as municipal bond issues are concerned, we believe that bond issue programs are good financial solutions to finance infrastructure development plans of medium size towns.

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[13] The average spread to the 5 year EU benchmark bond during this year was 19.2 bps.

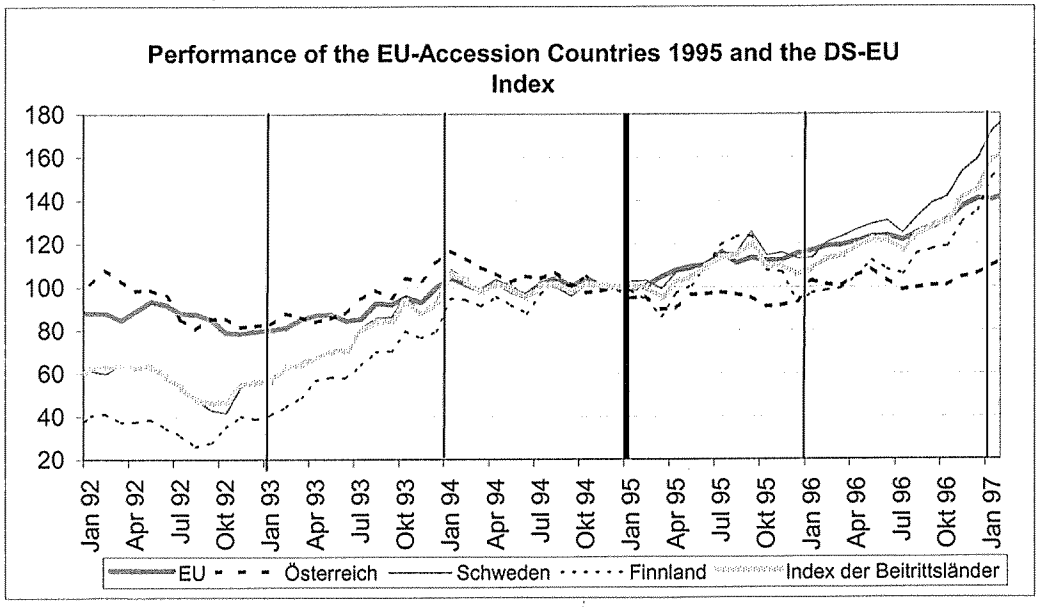
Alas, these programs are political cycle sensitive, after the 2002 autumn municipal elections we may expect an acceleration of these types of activities.

4.2. The equity market before EU and EMU accession

This section intends to analyse the effects of the approaching EU and EMU accession. Based on the experience of the last enlargement round and the EMU entry of Greece, its main purpose is to show similarities to Hungary and to explain expected changes and effects. Furthermore, this section is designed to highlight anticipated progress and perspectives of the local stock market and to answer the question of the influence from the upcoming EU accession.

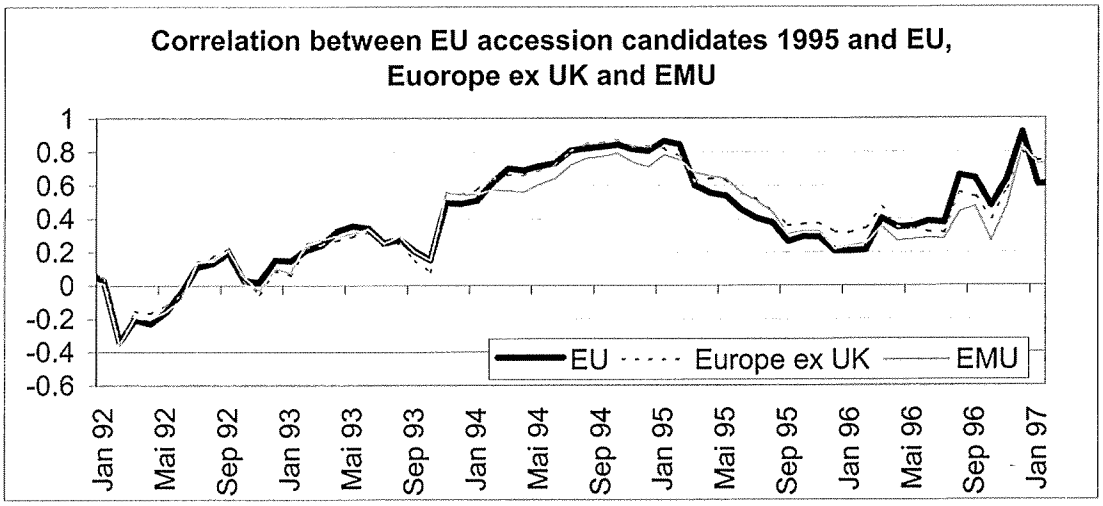
The intended EU accession certainly plays a central role in Hungary, too. Nevertheless, since stock exchanges in general anticipate future trends, it would be interesting to find out to what extent the Budapest Stock Exchange anticipates the upcoming EU and EMU accession. To gain a better understanding of the future developments until EU accession we have used stock market trends of the latest accession round (Austria, Sweden and Finland) for comparison. The period under review covers 1992 to 1997 (3 years before and 2 years after EU accession), which approximately equals the period required before Hungary and the other transformation countries will enter EMU. The time of EU accession (1995) was used for indexation to better illustrate the development before and after this event. The synthetic "Accession Countries Index" is composed of Austria, Sweden and Finland.

Aktienmarktentwicklung der EU-Beitrittsländer 1995 und des DS-EU-Index*



EU- Access-Candidtes 1995: Austria, Finland and Sweden
Source : Thomson Financial Datastream, RZB Research

Even though the performance of the individual accession countries' indices varies widely, the "Accession Countries Index" exhibits strong correlation with the EU already one year prior to accession. This is also shown by the graph below (annual correlation on the basis of monthly data). In addition, the outperformance of the accession countries between the autumn of 1992 and the end of 1994 is noteworthy, even though basically the markets merely made up for the previous underperformance. From the time of EU accession onwards, the outperformance gave way to an underperformance, and the high correlation started to decline. It only reversed its trend and rose to a higher level beginning from mid-1996, and the "Accession Countries Index" again achieved an outperformance, driven by Sweden and Finland.



EU accession candidates 1995: Austria, Finland and Sweden
Source : Thomson Financial Datastream, RZB-Research

The development during the last enlargement round now allows several conclusions to be drawn regarding the current accession candidates. Although the correlation between the EU area and Hungary remains constant at a medium level, it is likely to increase particularly during the last year before accession (analogous to the correlation trend of the enlargement round of 1995). Until then, the correlation should rise only moderately.

4.2.1. Potential changes in the institutional and regulatory system – international comparison

As already explained above, the prerequisites – in terms of market mechanisms – are already largely in line with EU requirements. The efforts to enhance market transparency further will continue, which is a pivotal factor especially for the future development of the Hungarian stock market. However, these achievements will not be effected through regulatory changes, since the latest adaptation (Capital Market Act 2002) is already in

accordance with the targets and requirements of the EU. Nevertheless, investor perception will certainly change in the run-up to EU and EMU accession.

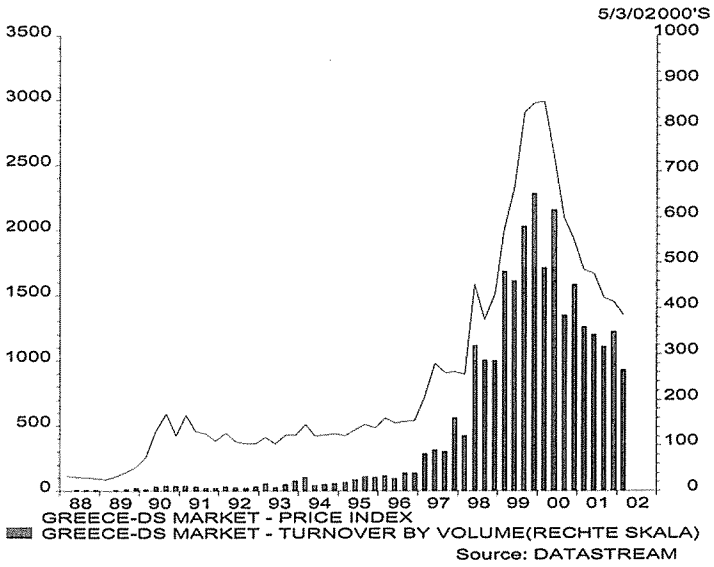
4.2.2. Changes in the evaluation of Hungary as an asset category

The Hungarian stock market is mainly characterised by foreign investors (about 75 %), so that the re-rating of the asset category will have a direct influence on the development of the stock market. The Hungarian market is being referred to as an emerging market at the moment, and potential foreign investors are represented for two reasons. Firstly, market players intend to participate in the higher economic growth resulting from the convergence process (real GDP growth in the EUR-12 region 2001: 1.5 %; Hungary: 3.8 %). The second important aspect is the benefit of diversification. The causal relationship lies in the fact that the correlation between emerging markets and developed markets is traditionally low. However, in the case of Hungary this only applies to a certain degree by now, since the correlation has already risen to a medium level (between 0.4 and 0.6) as a result of ever increasing trade links.

Although these two reasons will definitely continue to play a role in the foreseeable future, it should not be overlooked that Hungary has already adapted to Western standards. It is therefore only a matter of time when this development will be rewarded through an upgrading from an emerging market to a developed market. Nevertheless, investors have in part already started implementing this re-rating as a gradual process. That is above all reflected in the higher correlation as mentioned above and the catching-up process in terms of valuation. Furthermore, Hungary is no longer considered a typical emerging market among the investor community also because of the country's favourable economic situation and its stable environment.

Greece provided the latest example of a change in classification in the year 2001. Both share prices and trading volumes started to rise strongly from 1997 and peaked during the first three quarters of 1999. This extraordinary trend was attributable to the underlying convergence of interest rates ahead of the upcoming EMU entry (the largest bank of the country – the National Bank of Greece – achieved a ten-fold increase in value during this period). This comparison clearly shows that it is not the formal EMU entry by itself that counts, but rather the associated convergence trends in anticipation of accession. For this process to materialise, an upgrading to a developed market is of vital importance. MSCI has no clear (published) guidelines as to when a market is upgraded, so that many investors had anticipated this development, since the likelihood of an upgrading rose tremendously upon EMU entry.

Stock market and turnover trends in Greece



Source : Thomson Financial Datastream

This chart provides ample evidence that the Greek stock market anticipated the country's EMU entry in the year 2001 as early as 1997/98. Which conclusions can be drawn from this development for the candidate countries in Eastern Europe? On the one hand, the upcoming EMU entry starts having an influence on the accession candidates already now, and on the other hand an upgrading to a developed market is likely to occur around the time of EMU entry. The table below shows that MSCI had classified all countries as developed markets upon EMU entry at the latest. This would in turn allow the conclusion that a positive influence on the Budapest Stock Exchange will not only derive from the underlying interest-rate convergence but also from the increasing likelihood of a rating upgrade.

EU/EMU entry and classification according to MSCI

Country	EU accession	EMU-entry	MSCI-Member Emerging Market since	MSCI-Member Developed Market / MSCI-Europe since
Austria	1995	1999		1969
Sweden	1995			1969
Finland	1995	1999		1987
Spain	1986	1999		1969
Portugal	1986	1999	1989	1997
Greece	1981	2001	1989	2001
United Kingdom	1973			1969
Ireland	1973	1999		1990
Denmark	1973			1969
Luxembourg	founder member	1999		1990

Source : Reuters Business Briefing

Apart from that process of anticipation, also investors will radically change their view of the market. Whereas the current approach is regional (CEE area), continuing standardisation and Europeanisation will increasingly give way to a trans-regional (Europe-wide) sector approach also in Hungary.

4.2.3. Changeover from a regional to a sector approach

The sector approach has been the predominant approach in asset allocation for quite some time. After it had become the most popular methodology on the international scene, portfolio managers also employed it in emerging markets. Even though the sector approach is still regionally limited to the CEE area, this situation will change with the approaching EU accessions. Subsequently, investors will no longer view the transformation countries as a separate region but rather view them as integrated in a multi-country EU area. This trend has already started to gain ground in the past few years, which is again due to increasing convergence efforts (declining economic differentials between the CEE and the Western European economy) and continuing globalisation.

What will be the effect on Hungarian equities? So far, stocks were mainly evaluated and selected on the basis of a regional comparison – at least as far as economic conditions of the respective country permitted to do so. In the recent past, the tendency towards comparison with Western European ratios as selection criteria has become increasingly important as mentioned above. Companies are therefore no longer compared on the basis of their relative standings to other companies within the region but also have to live up to a Europe-wide comparison. Against this background, potential investors will only be attracted by those blue chips which are internationally competitive. In relation to the size of the country, this development will hardly benefit more than 4-6 Hungarian companies. Nevertheless, to put this situation into perspective it has to be conceded that many companies are burdened by a valuation discount due to their – predominantly Western European – strategic investors, although they would be capable both in terms of size (market capitalisation) and ability to withstand competitive forces. This is attributable to the fact that many index providers (e.g. MSCI) are increasingly focusing on a company's free float, so that the weighting in the pertinent indices will be lower.

Company	largest shareholders	%
Antenna Hungaria	Hungarian State Privatisation and Holding Comp.	83.7
BorsodChem	CE Oil & Gas Beteiligung und Verwaltung AG	59.2
	Sibur Int. Ltd.	24.8
Danubius	Interag Rt.	29.4
Demasz	EDF International SA	60.9
Egis	ATP	50.9
Gedeon Richter	SPH Ltd.	25.2
	The Bank of NY (Depository)	24.9
Matav	Dt. Telekom	59.5
MOL	Foreign Investors (Institutions)	46.3
	Hungarian State Privatisation and Holding Comp.	25.0
Nabi	The First Hungarian Fund	54.1
	Citybank (Depository)	13.3
OTP	no shareholder with more than	
Pannonplast	Pictet & CIE AG	12.6
Pick Szeged	Arago Investment Holding	41.3
Raba	The Municipality of Gyor	11.1
	EBRD	10.6
Synergon	Bankers Trust Comp.	12.3
TVK	MOL	33.0
	BorsodChem	15.2
	CE Oil & Gas Beteiligung und Verwaltung AG	16.0

Source : Bloomberg, RZB Research

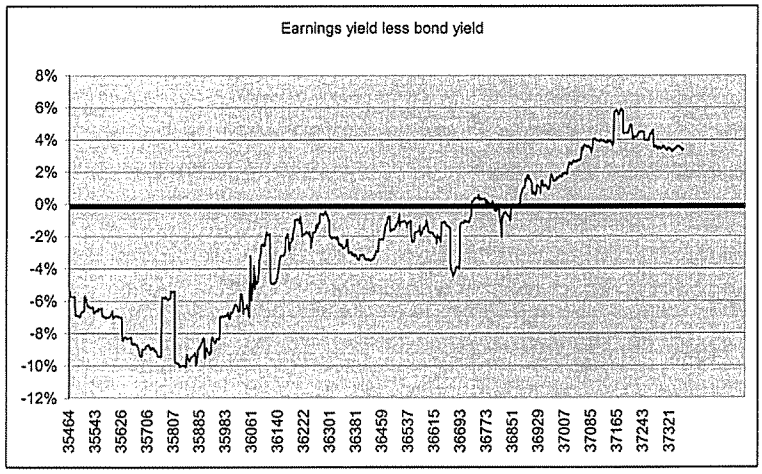
Therefore, large local companies without a strategic investor (such as OTP Bank) will benefit. Other companies with a strategic investor (such as Matav, in which Deutsche Telekom has a stake of about 60 %) will be unable to benefit from this change due to their lower free float. As a result, the outlook for local players is mixed. The changeover will put small to medium-sized local companies at a disadvantage from the beginning. As mentioned above, the companies so far only have to convince investors within the framework of a smaller region in which economic conditions are at least similar. This task will be more difficult to accomplish on a trans-regional (i.e. EU-wide) level, since they are only small caps compared to Western European companies. As a result, these companies are in a similar situation as Austrian companies. Due to their size, the DJ Euro Stoxx Small Cap Index is the most suitable benchmark (it is also used as a benchmark for Austrian companies). Although these relatively small companies are able to counter this disadvantage through focusing on market niches or in their capacity as cost leaders (lower costs of production; generics), many yet have to embark on this strategic course and/or implement it. In summary, this trend may open up a window of opportunity for a successful reorientation, but one has to bear in mind that it is difficult for these small companies to maintain their traditional performance and defend their position in a highly competitive market.

4.2.4. Valuation

There is a risk premium associated with the valuation of the Hungarian stock market which is composed of several aspects. As mentioned above, the risk premium due to uncertainty regarding political stability is no longer at centre-stage in Hungary. The country has shown a

secure and stable political course towards the EU for some time, and it is for the most part supported by the all the major political parties. Any residual risk in this respect will become irrelevant upon EU accession at the latest. Moreover, both individual stocks and the market as a whole exhibit a valuation premium attributable to the lower market capitalisation as relative to Western European companies and lower liquidity in the listed stocks. This situation will improve in future, since the new stock market-friendly government has made various privatisations via the stock exchange more likely, and also private companies will accept the challenge of going public if the good sentiment persists. Market capitalisation should increase as a result already taking into account possible de-listings of smaller companies. Given the friendlier approach by the government, both foreign and local investors should be attracted again, which will have a positive effect on liquidity. The last major factor relevant to foreign investor is the exchange risk. Based on the underlying base-case scenario, the currency should be stable to slightly firmer in the future.

On the basis of these forecasts, we can expect the existing risk premium to decline gradually, which will lead to a higher valuation and hence to convergence towards Western European levels. The following graph compares the valuation of the Hungarian stock market with the yield level (earnings yield less bond yield). To calculate the earnings yield, we have used the aggregated 12-month forward PE from IBES, and we have used the bond yield of 5-year government bonds.



Source : IBES, Thomson Financial Datastream, RZB Research

It is obvious that Hungarian equities were overvalued compared to bonds in particular up to mid-1998. However, this is usual for an emerging market, since initially there was a very high yield level due to the high inflation rate. A glance at the development of the stock market index reveals that investors pinned high hopes on earnings trends already early on and hence waived the higher bond yield in favour of higher exposure to equities, although the stock market looked fairly expensive compared to the bond yield. In connection with

convergence efforts ahead of the intended EU accession, the inflation rate has been continuously lowered, and yields have gradually adjusted to the lower level in Western Europe, too. Due to this convergence process, the relatively high valuation of the stock market has fallen and reached an attractive level in unison with further declines in yields. Nevertheless, there is still substantial leeway for yields to decline further, since the differential between Hungarian and Western European government bond yields is still significant.

If the 5-year German government bond is employed as a benchmark for the EU region (to facilitate comparison with Hungary) and if a long-term average (since 1992) is calculated therefrom, the current level is 4.9 %, which also serves as a target level for Hungary in 2007. In the wake of EMU entry, Hungarian yields will converge towards this Western level as well, but a premium of about 40 basis points would have to be added to account for differences in liquidity and size. This premium would be similar to that of countries which entered EMU in the past such as Greece (spread: 35 bps), Italy (25 bps) and Portugal (25 bps). With a current yield level of 7.4 % for the 5-year Hungarian government bond, convergence towards 5-year German yields would enable downside potential of 2.1 % – including the assumed spread of 40 bps. Moreover, earnings are expected to show solid growth in the next few years (average RZB expectation until 2007: 7.6 %), fuelled by the anticipated increase in incomes and earnings throughout the Hungarian economy. On the assumption of stable prices, this would bring about an increase in the earnings yield (RZB estimate: 15.6 %). Against this background, the valuation based on earnings yield less bond yield will continue to decrease until EMU entry, driven by the convergence process. Thanks to the decline in the risk-related discount in respect of Hungary, there is sufficient upside price potential. Comparing the valuation of Hungary on the basis of earnings yield less bond yield to established stock markets such as Austria, convergence in valuation (average since the beginning of 1997: +2.1 percentage points) would result in additional performance potential of slightly more than 110 %, which would translate into an annualised performance of about 16 %.

Year	Price	Earnings *	PE	earnings yield	Bond yield	Earnings yield - bond yield
2002	8800	953.7	9.2	10.8%	7.4%	3.4%
2007	*8800*	*1375.6*	*6.4*	*15.6%*	*5.3%*	*10.3%*
2007	**18500**	**1375.6**	**13.4**	**7.4%**	**5.3%**	**2.1%**

* implied earnings figures
Source : Thomson Financial Datastream, RZB Research

The proportion of foreign investors is extraordinarily high compared to domestic investors. What can we expect with regard to their activity in the future? On the one hand, the possible improvement of the market's capitalisation and liquidity may attract more foreign investors to

the BSE. Also, the convergence process and a further decline in country risk augur well for increased activity on the part of foreigners.

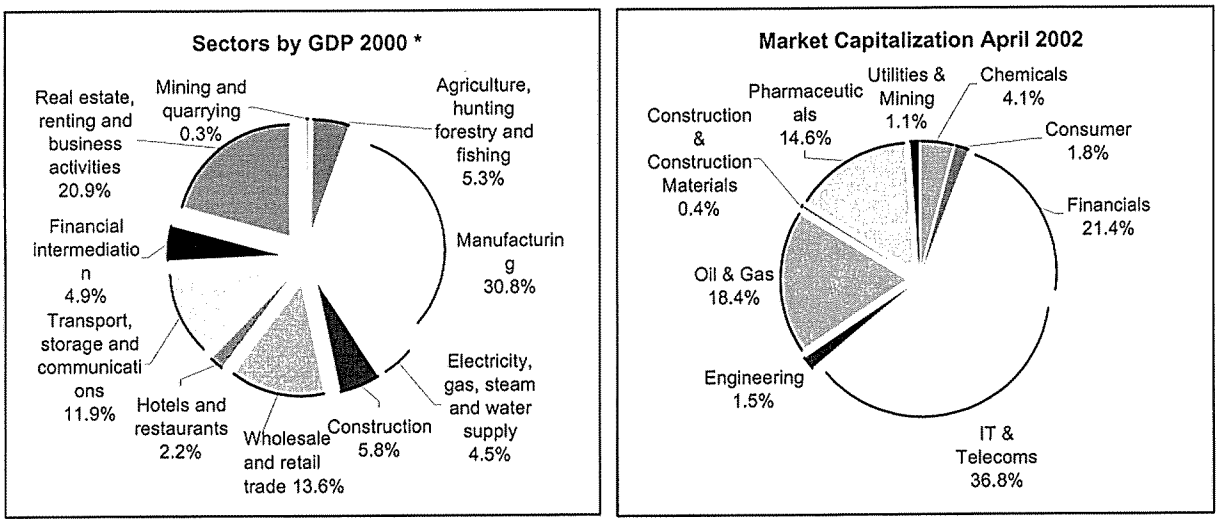
Domestic investors: Household savings are on the rise. While the stock of household savings made up only 40 % of GDP in the early 1990s, the current ratio is about 50 %, and we expect it to gradually increase further. Nevertheless, the proportion of domestic equity securities in the savings portfolio has undergone some negative changes recently. Domestic investors keep playing a smaller role on the BSE (compared to foreign investors). We expect a positive shift in the overall market situation (more listings; abolishment of the capital gains tax etc.) that is likely to bring about a higher participation rate of domestic investors as well. Assets managed by domestic institutional investors (pension funds, mutual funds, insurance companies) are expanding. Given the positive changes expected for the stock market, we can well calculate with higher demand from domestic investors.

4.2.5. Outlook for the Budapest Stock Exchange

The upcoming EU accession and the aspired subsequent EMU entry will also lead to a sea change on the Budapest Stock Exchange itself (possible some loss of autonomy). Although this argument is not exclusively contingent on EU accession, it is increasingly becoming a core issue as a result. The basic task of a stock market is to provide the necessary liquid funds to companies with long-term financing needs through issues of shares or corporate bonds. Against this background, an evaluation of the Hungarian stock market clearly shows that this task was not fulfilled in the past. This is partly due to the relatively high costs of a stock exchange listing and partly also to the fact that there is easy access to other financing means such as, for example, bank loans or inter-company loans. These alternative financing methods currently enable companies to cover their capital requirements on more favourable terms and more efficiently. As a result, the BSE is put at a disadvantage due to the relatively low market capitalisation and liquidity. To ensure independent survival, the BSE has to attain critical mass enabling it to lower costs and fees to competitive levels while at the same time maintaining the same array of services as those offered on Western European exchanges.

In the next years we are likely to see some new listings on the Budapest Stock Exchange due to the change in government (April 2002) and a different approach to the economy as such. Some of the state-owned companies will be privatised, and potentially the privatisations will be conducted through the stock exchange. Although no detailed plans have been made up yet, some action is definitely expected.

Apart from the state-owned companies, there are a handful of private companies that may opt for a listing if the investment climate improves and technical listing requirements are eased. Some of the potential candidates are Videoton (electronics subcontractor), Hungaropharma (drug wholesaler) and ICN (pharmaceuticals group).



* excluded Sectors:
Health social work, public admin. and defence other community, social and personal service activities and education
Source : Hungarian Statistical Office

If the breakdown by sector according to GDP methodology is compared to the market capitalisation on the BSE (excluding the sectors which appear unsuitable for a stock exchange listing due to cultural conditions), it becomes obvious that the presence of some segments is significantly below average – if at all existing – on the stock market. This suggests the conclusion that there is additional potential for stock market flotation. The transport, agricultural, construction and manufacturing sectors are particularly under-represented, which makes stock market flotation increasingly likely in these areas.

At the same time, we can assume that the recent trend of company de-listings from the BSE will not cease to exist. There are several examples where recent changes in ownership may well culminate in a situation when companies opt for a de-listing from the exchange. Among others, we assume that some of the electricity distributors may de-list or the small caps Skála, Rába, Zalakerámia.

Number of equities admitted to the various Stock Exchanges

	1995	1996	1997	1998	1999	2000	2001	2002
Budapest	42	45	49	55	66	60	56	54
Prague	1716	1670	320	304	195	151	102	95
Warsaw	65	83	143	198	221	225	230	228

Source: Local Stock Exchanges; March 2002

Altogether, we assume that the balance will be positive, and the capitalisation of the BSE is seen to increase. The comparatively low market capitalisation may somewhat improve in the years ahead. Sufficient market capitalisation is of utmost importance for the stock exchange, and it is the precondition for sufficiently high liquidity in the securities traded. With a more

liquid stock exchange, the role of the capital market as a source of corporate finance may evolve, which would further improve the attractiveness of a listing for a private company.

The autonomy of local stock exchanges will be questioned in future. Some local exchanges in Central and Eastern Europe will certainly be unable to attain critical mass in order to curtail costs and fees to such an extent and still offer the services required by companies and investors alike to remain competitive with the established stock markets of Western Europe. Even though the BSE certainly ranks among the most established stock exchanges in the CEE region, it will probably not be able to remain fully independent in the long run. Competitive pressures on the relatively small stock market (by Western European standards) are too high, so that a cooperation of some kind appears indispensable. The BSE has recognised this trend in time and is already considering various possibilities. An important step in this direction was the BSE's changeover from a member exchange to a public company in April 2002, which makes it more flexible regarding possible future co-operations. There are currently two possibilities for the BSE: firstly, one large regional exchange could be founded on which all shares of the region could be traded. This option would offer the advantage that investors' interest could be focused, and it would furthermore attain the size required for offering its services on competitive terms. However, negotiations to minimise costs would be difficult given the selection of one joint trading platform and due to cultural differences. The second option would be a link to a Western European stock exchange, which would pose the risk of marginalisation due to the low market capitalisation.[14] Both possibilities for cooperation have their pros and cons, but the latter currently appears to be more probable. While a detailed schedule appears impossible to prepare at present, one can expect that concrete changes will be implemented by the time of EMU entry at the latest.

Executive summary

Talking about the present of the Hungarian capital market the analogy of the bottle that is half empty appears to describe well the situation. In its regulation and institutional framework, the Hungarian market meets the standards of the developed markets' – meanwhile it has been successful to serve as an efficient financing channel of the state, the role of the capital market as a source of corporate finance is by far not as developed as on established markets.

The local bond market has two different sides: while the sovereign debt market proved to be a success story, there is a largely immature private bond market. Sound macro fundamentals, consequent improving country rating, market friendly regulations and a professionally managed institutional framework helped the government bond market to develop, while structural and regulation obstacles prohibited the private bond market to

[14] Poland's Warsaw Stock Exchange has taken a first step in this direction by entering into an alliance with Euronext, with the installation of the trading system WARSET (based on the Euronext system operating in Paris).

become fully fledged. The Hungarian stock market is deeply integrated in the global equity markets, and foreign investors have an extraordinarily significant role in the BSE. The domestic institutional investor base is developing, however there is an increasing risk aversion witnessed recently. In terms of market capitalisation and liquidity the BSE is comparatively small; the Hungarian stock market exhibits a risk discount that is due to the relative size of the companies and the market as well as the lower liquidity. The institutional framework of Hungary's capital market (both equity and fixed income) is basically in line with international standards. As far as the regulatory framework is concerned: the new 2002 January Capital Market Act is already fully EU compatible – therefore no changes are expected before the EU accession.

A capital market supportive economic environment is expected for the upcoming period: strong economic growth; decelerating inflation rate; diminishing interest rates; increasing wages and savings; declining public deficit will characterize the next years of the Hungarian economy.

Ahead of EU and EMU accession there is an ongoing development of the institutional framework in order to secure that local currency debt market should remain competitive in a larger European market (changes are likely to affect primary dealership system; price quotations; benchmark calculation; trading platforms; auction techniques). Larger bond series, lengthening of the duration will characterize the government bond issuance. There are little similar moves detected on the side of the corporate bond market. The rudimentary problems of the underdeveloped market are not seen to get healed (structure of the corporate sector; etc.): we may witness some development nevertheless it is not realistic to believe that a flamboyant market (either primary or secondary) will be reached. Earlier examples (Greece; Spain; Portugal)and current market prices suggest that we are going to encounter a longer, less dramatic yield convergence in the case of Hungary than seen before.

The current the status quo of the Budapest Stock Exchange will probably not remain intact, however it is not possible to describe how the transformation will finally occur. The impact of the upcoming change of Hungary's asset class (emerging to developed market; MSCI weighting) is seen positive, however the ongoing shift of investors from regional to sector approach is seen to bring a mixed result (only large Hungarian equities with high free float can benefit). The stock market would take advantage from the easing of the regulatory framework (easier listing requirements; abolishment of the capital gain tax) and some further privatisation through the stock exchange transactions. Increasing capitalisation and improving liquidity, plus an anticipation of EU and later EMU entry should bring about a decline of the risk premium. A positive market sentiment in turn would attract private companies to list on the stock exchange, and therefore the Hungarian capital market is seen to fulfil better its role as a source of corporate finance.

We vision a two-faced capital market at the end of our time-span: capitalisation and liquidity would enable the government debt securities and largest Hungarian equities to join to the pan-European capital markets with some discount priced in (as by pan-European measures they will be smallish), whereas a nascent corporate debt and small-cap equity market is seen to function locally. The analogical bottle of the Hungarian capital market probably will be more than half-way full by the time the country joins to the European Union and the European Economic and Monetary Union.

On Banking and Exchange Rate Policy in Hungary

Julius Horvath[§]

1. Introduction

Hungary had a strong macroeconomic performance in the last five years or so, and is at the forefront among the European Union accession candidates. From 1997 onwards the real GDP is growing around, and mostly above, the 4 percent trend line. Robust export performance as well as raising domestic demand, drive the growth. After considerate effort inflation is down well below 10%, but there is still a certain disappointment with this performance, especially in view of the Maastricht criteria.

In the way towards the accession to the European Union the role of the banking sector and the exchange rate policy is in the spotlight. Hungary has performed a successful reform of the banking sector. Today it seems to be a generally accepted opinion that – given the limitations of a transition country – Hungary's banking sector functions well. Well-functioning banking sector helps to enforce corporate control and hard budget constraints. Also it seems that effective regulation and supervision of the banking and financial sector helps to moderate the potential vulnerabilities and avoids unnecessary risk-taking in the presence of heavy capital inflows.

During transition Hungary introduced three exchange rate regimes, an adjustable peg, then crawling peg, and currently (from October 2001) Hungary's exchange rate regime is a target zone with wide band of ± 15 per cent, where the parity is determined in relation to euro.

In the period 1990-94 Hungary – as some other transition economies – relied on a more fixed exchange rate regime, however, the adjustable peg with numerous re-alignments fulfilled only in a limited degree the role of nominal anchor. Later the crawling peg made it easier to bring down inflation to a single digit level. However, in order to bring the inflation down further to the levels comparable to the EU-member countries Hungarian authorities were facing a challenge to design an appropriate policy in this direction. Ultimately, the country abandons the crawling peg and moves towards a more flexible target zone regime, and towards a monetary policy framework of inflation targeting.

This paper proceeds as follows. Section 2 describes the evolution of the Hungarian banking sector. Section 3 depicts the development of the exchange rate policy. The last section concludes.

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2. Banking Sector

Some recent contributions in the literature discuss the relationship between financial development and economic growth.[1] Empirical work has documented in a cross-country framework that there exists a robust positive correlation between financial intermediation – measured by the ratio of bank lending to GDP, and/or the ratio of stock market turnover to GDP – and growth. Well functioning banking system has a positive impact on medium- and long-term growth. In the last years real growth performance of Hungary was – at least to a certain extent – shaped by the well-functioning banking sector.

In the spring of 2002 Hungary has one of the most stable banking system in the transition countries. This is due to the successful consolidation, re-capitalization and privatization of the banking sector,[2] which created a right set of incentives for the future behavior of economic actors.

Initially, at the early 1990s, an early boost in the stock market activity, influence of Anglo-Saxon economic thinking, and the early banking crisis created a belief that the financial system of transition countries may emerge along the Anglo-Saxon lines. However, today primarily foreign owned commercial banks dominate the Hungarian financial system, and enterprises rely to a large extent on internally generated resources, and the greater part of long-term finance originates from foreign direct investment. This suggest that the Hungarian financial system seems to develop along the lines of the 'bank-based' system – closer to the German or Austrian model – than along the lines of the Anglo-Saxon 'market-based' system. However, note that empirical evidence is inconclusive concerning the effect of these different financial systems on the growth performance, thus one cannot make easily a positive or negative comment on this tendency.

There are different possible explanations why bank-based system was preferred to market-base system. One explanation may be the cultural and geographical proximity to Germany or Austria. However, Berglof and Bolton (2001) provide a different explanation. They seem to link the pre-dominance of the bank-based system to the level of development, when they argue that "it is only at more advanced stages of development that one sees financial markets, including stock and bond markets, play an increasingly important role."[3] They provide two sets of reasons for the pre-dominance of bank-based system at the initial stage of development. Both have certain validity for the case of Hungary. First, market based system will develop especially in an environment in which protection of creditor-rights is developed and enforced, and where small investors cannot be exploited by stock exchange

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[1] See Levine (1996) for a thorough review of this issue, and Berglof and Bolton (2001) for an excellent application to transition countries.

[2] Consolidation and re-capitalization of the banking industry had placed considerable burden and privatization led to sizeable revenues for the government budget.

[3] Berglof and Bolton (2001, p. 26).

manipulators. Until these conditions are fulfilled small investors would feel much more protected by putting their savings into banks than in the stock exchange. Second, in a less developed small open economy, it may happen that nearly all companies will find it too costly to issue bonds or shares in a stock exchange. "Only the more advanced economies have a sufficient number of large and stable firms that could get cheaper funds by issuing securities and thus create the thick market externalities necessary to sustain efficient stock markets."[4]

The pre-dominance of the bank-based system is also the fact for other Central and Eastern European countries, as Poland, Czech Republic, Slovakia, and Slovenia. According to Wagner and Iakova (2001) the banking sector assets in these Central and Eastern European countries account approximately for 85-95 per cent of overall financial assets, in comparison to 50 % or so in the United Kingdom. In all of these countries "bank monitoring plays a more important role in corporate governance as opposed to the threat of hostile takeovers, which may characterize more market-based systems. Claims on banks are more important in household portfolios than securities. Thus, banks dominate the provision of financial services."[5]

In support of the thesis that the Hungary's financial system is developing across the lines of the bank-based model one can mention the conditions in the bond market. Bond market capitalization is around 30 percent of GDP compared to about 100 percent of GDP in Western Europe.[6] Hungarian government issues most of the bonds, and the corporate bond market is very small.

Despite the fact that country develops along the lines of the bank-based system, the assets of the banking system as a percentage of GDP are relatively low as compared to some western countries.[7]

Table 1.
Bank Assets to GDP Ratio, %

1994	1995	1996	1997	1998	1999	2000
70.4	66.4	67.2	67.2	68.2	64.3	63.8

Source: Varhegyi (2001, p. 595).

[4] Berglof and Bolton (2001, p. 27).
[5] Wagner and Iakova (2001, p. 6).
[6] "Bank loans are seen as a lower cost and less demanding approach to raising money, with the additional advantage that banks often provide a revolving credit line. A handful of the largest corporations have issued Eurobonds, but, even for these, the share of bond financing is lower than that of retained earnings and bank loans. There are a number of reasons for the current under-development of private local bond markets. Blue-chip companies obtain bank financing at low interest rate margins, and those which are foreign owned receive financing from parent companies at even lower rates. The majority of remaining companies are small and cannot issue debt in large liquid denominations." Wagner and Iakova (2001, p. 10).
[7] For example in the United Kingdom or Switzerland this ratio is almost 300 per cent.

Credit extended to corporate and household sector accounts approximately to 25 % of GDP in Hungary as compared with more than 100 percent in the United Kingdom. But this ratio is rising currently in Hungary. There are several factors, which may explain the low level of credit to GDP. Credit to households is relatively low simply due to low level of household incomes, which increases bank's lending risk. Also foreign direct investment and privatization lead to high foreign participation of multinational enterprises, which prefer borrowing from their mother companies or from foreign financial institution rather than from resident Hungarian banks.

Table 2.
Domestic Credit to Households and Corporate Sector, % of GDP

1990	1993	1994	1995	1996	1997	1998	1999
45.0	28.7	24.7	22.3	20.8	21.4	22.7	23.4

Source: Berglof and Bolton (2001, p. 40).

Table 2 shows that there was a sharp decline in credit to GDP ratio from 1990 till 1996. However, the initial number of 1990 is hardly comparable with the remaining data, since this may be what Berglof and Bolton (2001) call "accounting fiction." One sees however, in the second half of the 1990s a steady expansion of credit, and one may expect an increase in the financial depth in the future. This may be due to the increase of exchange rate risk (wider exchange rate band from May 2001), which may stimulate resident Hungarian companies to borrow in a larger extent from resident Hungarian banks and thus decrease the risk factor. However, the strong presence of the multinational firms in Hungary, who rely to a large extent on borrowing from their mother companies or mother countries probably explains the fact that the financial depth will stay lower (but somewhat rising) than is typical in some western countries.

More risky participants in the financial markets (households and small and medium size companies) have quite limited access to these markets. However, we observe that markets for these participants expand as mortgage lending, household loans and financing of small and medium size companies grow. Hungarian government recently intervened in these markets. As a result one sees public guarantees for the small and medium size business and subsidized mortgage lending.

On the deposit side the concentration in the banking sector is very high, while it is lower in the credit side of the market. All together as Table 3 documents concentration in the industry is decreasing.

Table 3.
Concentration in Hungarian Banking Industry

	1990	1993	1994	1995	1996	1997	1998	1999	2000
Five Largest Banks	83	69	64	61	59	56	54	55	53
Ten Largest Banks	93	84	81	80	77	74	69	74	73

Source: Varhegyi (2001, p. 587). Based on total assets share.

Competition is steadily growing in the banking sector. This may be documented by declining spreads,[8] shift in bank portfolios from government securities to private sector lending and by declining bank profitability. It may be that competition leads to decreasing numbers of banks in the near future.[9]

Next, we shortly describe the development of the Hungarian banking sector during the transition.

2.1 Stages of Development of Banking Sector in Hungary

Hungary similarly to other transition economies followed what Bonin and Wachtel (1999, p.3) call the three stages development of banking sectors in transition economies. "The first is the establishment of commercial banks as joint stock companies and of a central bank from the Soviet-era mono banks. The second is the restructuring of bank portfolios and the recapitalization of the banks. The third step, privatization, involves a transfer of ownership from government." We briefly discuss these stages of banking development.

As in other transition economies Hungarian banking system has developed from the domestic monobank, which – under socialist regime – was responsible for both the monetary and exchange rate policy as well as for commercial banking activities.[10] The transformation of this system, i.e. the first stage began in Hungary relatively early. In difference to some other transition economies, the state bank system began to be transformed into a two-tier banking system already during the socialist period (note Hungary joined the International Monetary Fund already in 1982). The new banking system introduced in 1987 consisted of the central bank (National Bank of Hungary) and five state-owned commercial banks. Three

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[8] Interest margins are somewhat higher than in the EU average, and they are decreasing. Berglof and Bolton (2001, p. 42) publish data on loan-deposit rate spreads for transition economies. In 1999 this spread was lowest, 3.4%, in Hungary. Loan rate spread is defined as the average rate charged by commercial banks on outstanding short term credits to enterprises and individuals, weighted by loan amount. Deposit rate is defined as the average rate offered by commercial banks on short term deposits, weighted by deposit amounts. Corresponding data for Latvia was 9.2%, Czech Republic 4.2%, Sweden 3.9%, U.S.A. 2.7%.

[9] In 2001 the Kereskedelmi and Hitel Bank and ABN Amro merged to form the second largest bank in Hungary.

[10] "In the monobank system the overall level of credit was often quite high, with the aim of spurring production along the lines desired by the economic planners, rather than having loans channeled according to conventional standards of creditworthiness. The monobank was not a bank in the sense that it screened and monitored projects or enforced repayment of loans, rather it was the channel for funds allocated by the plan." Berglof and Bolton (2001, p. 3).

of these commercial banks – adopting a portion of the central bank's portfolio – were established in 1987 with clients along sectoral lines, while the two other commercial banks (the National Savings Bank, OTP, and the Hungarian Foreign Trade Bank) were always present during the socialist period. While originally these banks were heavily under-capitalized with substantial bad-loan portfolio they still provided a pre-transition experience with the two-tier banking system.

2.1.1 Restructuring of Banks

The second stage involves restructuring of bank portfolios and recapitalization of banks. These steps were needed because, despite initial pro-reform steps, the banking sector got into deep crisis in the beginning of the transition. There was a mixture of reasons, which led to the initial crisis.[11] First, the initial fall of output and income at the beginning of transition led to bankruptcies of bank clients. Furthermore, high real interest rates, early inflation of around thirty per cent, and an increase in inter-enterprise credit aggravated this situation. Second, Hungarian state banks dealt with a large volume of non-performing loans, which were mostly the legacy of the direct lending under the socialist system, but also the share of non-performing loans was increasing in the first years of transition. This was among others due to the worsening of the growth pattern and the fact that management of banks was of somewhat lower quality with un-experienced staff, irresponsible lending practices, and so. Third, credit market was segmented along sectoral lines, which had negative impact on competition. Fourth, there were considerable shortcomings in supervision.[12] In 1992 bank supervisory tasks were transferred to an autonomous agency, which after a while led to a considerable improvement in supervision.

As a reaction to the crisis in the banking sector government intervention was inevitable to prepare the basis for the establishment of sound financial institutions and thus eliminating – or decreasing to a large extent – incentives for non-prudent behavior in the financial sphere. Hungarian government intervened, but it is important to stress that there was no guarantee of success. The success of such interventions was to be determined to a large extent by the degree to which bank restructuring and later privatization programs imposed hard budget constraints on both enterprises and financial intermediaries.[13]

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[11] Describing the main causes of the crisis we draw heavily on Szapary (2001) and Tang, Zoli and Klytchnikova (2000). Banking crisis may involve bank runs or banking distress, which involves a substantial share of non-performing loans.

[12] Szapary (2001) writes that at the early beginning of transition, until the new laws were accepted, the valid regulation and rules for loan classification and provisions did not compel the banks to practice prudent lending and to make adequate loan loss provisions. The change has occurred towards the end 1991 when various new laws were accepted by the legislation concerning the financial institutions, accounting procedures, taxing procedure, and bankruptcy. Bonin and Schaffer (1999) provide an interesting retrospective look at Hungary's experience with what they call "a particularly draconian bankruptcy law". Berglof and Bolton (2001, p. 12) speak about "a devastatingly effective bankruptcy law."

[13] Wagner and Iakova, (2001, p. 19).

Initially, the new commercial banks remained under state ownership as well as their business clients, so lending policies were not based on any financial or economic logic.[14] Hungarian government intervened by replacing bad loans with government bonds, but at this initial stage there was not a clear understanding that a radical change is also needed in operations and management of these banks. As conditions got stricter and recapitalization was followed by privatization the situation got better.[15]

The process of bank consolidation involved combination of different measures. Initially portfolio cleaning of the banks and then enterprise-oriented portfolio cleaning was attempted. "Those banks and savings cooperatives which had a capital adequacy ratio (CAR) of less than about 7 percent were given government bonds in exchange for their non-performing loans at the end of 1992. ... A part of the bad loans was sold by the government at a discount to the Hungarian Development Bank (HDB).[16] ... Another part of the bad loans was left with the banks to be worked out. ... Those loans that could not be worked-out or sold [to private work-out companies] were handed over to the HDB, which in many cases had to write off the debt."[17] Table 4 depicts the evolution of doubtful and bad loans in the 1990s.

Table 4.
Share of Doubtful and Bad Loans, %

	1994	1995	1996	1997	1998	1999	2000
Doubtful and Bad Loans	11.5	7.4	4.0	3.2	1.8	2.6	2.0

Source: Varhegyi (2001, p. 595). 1998 does not contain the loss of Postabank, MFB and the Realbank of 1777 billion forints. Loans are divided into problem-free, special watch, substandard, doubtful and bad.

Recapitalization (the increase in the capital adequacy ratio of the four large state-owned banks to 8 percent, and in other banks to 4 percent) was implemented in 1993-1994. This was done mainly by government purchasing – through issuing bonds – newly issued shares of these re-capitalized banks, and by extending loans to these banks.[18] The costs of bank restructuring are summarized in Table 5.

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[14] Berglof and Bolton (2001, p.5).
[15] Szapary (2001).
[16] HDB is a state owned asset management agency working with government guarantees, which had responsibility for the collection of bad assets. But HDB was not very successful in the recovery of assets since it had not a clear mandate, not enough power and also it was rather passive agency and not an active asset portfolio manager. HDB also performs some government connected lending. (Wagner and Iakova, 2001 p. 20).
[17] Szapary, (2001, p.10).
[18] The consolidation of the Hungarian banking system had come to an end towards in 2000 when a commercial bank operating abroad and owned by the National Bank of Hungary turned out to have a large bad loan portfolio when it was decided to sell it. After several attempts to sell the bank failed, the bank had to be closed down in 2000, with the central bank suffering a loss.

Table 5.

Cost of Bank Restructuring for the Government, 1991-1998, % of GDP

1991	1992	1993	1994	1995	1996	1997	1998
0.0	2.8	3.6	3.3	2.0	1.7	1.2	2.2

Wagner and Iakova (2001, p. 58).

Whether cost of bank restructuring was high or low depends on international comparison, since probably no other metric is available. Szapary (2001) considers these costs relatively low in international comparison, especially if one compares it with the cost of bank consolidation in Argentina in 1980-82, or in South-East Asia after the crisis of 1997. Ultimately, the increase of the foreign ownership in the Hungarian banking system stabilized the Hungarian banking system. In the next section we then trace the development of bank privatization.

2.1.2 Bank Privatization

There were three basic approaches to bank privatization[19] in transition economies: public offerings of equity, which favor the entrenched management, voucher privatization and tender offer from a strategic investor. Experience of transition economies showed that the first two approaches, while providing speedy transfer of ownership rights do not smooth the progress of creating a market-oriented banking sector.

Hungary privatized its banking sector primarily by means of sales to foreign investors who were able to inject additional capital into these banks. This process started relatively slowly in the beginning of the 1990s, but with the exception of Postabank[20] and OTP[21] to a large extent finished at the end of 1997. Here, one should note that before the large-scale privatization of Hungarian banks began, the foreign banks were already present on the Hungarian market.[22]

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[19] Bonin and Wachtel (1999).

[20] Postabank required a major government bail-out in 1998. "Some weaknesses of supervision were revealed in 1998 when two of the privatized banks – Postabank and Realbank – failed, although problems with their operations were known to supervisors well ahead of the failures. ... After renationalizing Postabank in the wake of its collapse, the government had planned to reprivatize it after restructuring. In the event, the government granted exclusive negotiating rights to OTP, Hungary's largest domestically-owned bank. But OTP's offer for Postabank was deemed too low, so the government has now decided to keep it in state hands by selling it to the state-owned Hungarian Post." (Wagner and Iakova, 2001, p. 59).

[21] "The government ruled that the NSB, the largest Hungarian bank with a market share of 29 percent prior to the privatization, should be privatized through the stock exchange. Besides the intention of keeping the management of the largest bank entirely in Hungarian hands, another objective was to promote the development of the domestic capital market." (Szapary 2001, p. 16).

[22] Varhegyi (2001, p. 582) shows that at the beginning of the 1990s one finds foreign banks on the Hungarian market. These included ABN Amro, BNP, Commerzbank, Creditanstalt, Credit Lyonnais, Daewoo, Dresdner Bank, HypoVereinsbank, ING, Nomura and Volksbank. In addition, some small-scale bank privatization had already begun too, as the case of Westdeutsche Landesbank, and Hanwha documents. Foreign bank incentives to enter Hungarian market seem to be twofold. First, there was a need to provide services to their (multi-national) customers

The first bank privatization occurred in the middle of 1994, and by the end of 1997, the state owned only around 20 % of total bank assets in Hungary, and foreigners owned 62%, up from 12 % in 1994.[23] The increased presence of foreign investors in the Hungarian banking sector was also a result of liberal licensing policy.

Currently only one large and one small commercial bank and a few credit institutions fulfilling special functions [Eximbank, the Hungarian Development bank among others] remain in the state ownership. Foreign ownership amounts to more than 60 percent of the share capital of the banking system.[24]

Today, then one can say that in Hungary the privatization of the banking sector is basically completed. The share of the state in the ownership of banking sector as documented in Table 6 is around 20-25%, which basically is concentrated in Postabank.

Table 6.

Bank Ownership Structure; %

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Domestic Ownership	86.7	83.5	63.9	50.5	37.2	36.4	32.4	30.8	34.2
- state	67.7	65.8	41.8	35.6	20.3	21.1	17.1	19.3	25.7
- domestic institutions	17.9	15.1	17.8	11.6	14.4	12.5	12.7	9.5	...
- private	1.1	2.5	4.2	3.2	2.5	2.8	2.6	2.0	...
Foreign Ownership	12.4	16.0	35.7	45.8	61.1	60.9	65.0	66.6	62.4
- credit institutions	9.9	13.9	26.8	38.9	52.8	46.5	49.9	50.8	...
- other foreign	2.6	2.2	8.8	10.1	8.6	14.4	15.1	15.8	...
Preferential and Repurchased Stocks	0.9	0.5	0.4	3.7	1.6	2.7	2.6	2.6	3.0
Total	100	100	100	100	100	100	100	100	100

Source: Varhegyi (2001, p. 583). Calculation based on registered capital. In 2001 the change in the ownership structure may be explained by two events: the capital increase of a state owned bank, and the fact that registered capital of the merged bank, KH-ABN AMRO, was smaller than the registered capital of the two banks were prior to the merger. Source: Hungarian Financial Supervisory Authority, "Report on the Development of the Supervised Sectors in the First Three Quarters of 2001," p. 2/26.

The evaluation of the Hungarian banking system especially after successful privatization of state-owned banks to strategic investors is very positive. Wagner and Iakova (2001, p.16) write: "Currently, Hungary has one of the most modern and advanced financial systems among the transition economies."

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who entered Hungarian market. Second, the less developed Hungarian market provided distinct profit opportunities. Varhegyi (2001, p. 584) mentions that profit opportunities were effectively used especially by Austrian banks as CA and Raiffeisen.

[23] Bonin and Wachtel (1999, p. 12), and Varhegyi, (1999).

[24] Szapary (2001, pp. 15-16).

Table 7.

Description of the Hungarian Banking Market

	1997	1998	1999	2000[a]
Banks	39	36	35	33
Specialized Credit Institutions	3	4	4	4
Home Savings and Loan Associations	3	4	4	4
Commercial Banks Total	45	44	43	41
Savings Co-operatives	242	237	203	192
Credit Co-operatives	8	8	8	8
Credit Institutions total	295	289	254	241

[a] 30 June 2000.
Source: National Bank of Hungary: The Hungarian Banking Sector, Developments in the First Half of 2000.

Table 8.

Market Shares of Individual Groups of Credit Institutions

	30. June 2000	
	Balance Sheet HUF billions	Percent
Large Banks	4716	57.25
Medium-Sized Banks	2152	26.12
Small Banks	539	6.55
Commercial Banks Total	7409	89.93
Specialized Credit Institutions	280	3.41
Home Savings and Loan Associations	64	0.78
Co-operative Credit Institutions	484	5.89
Credit Institutions Total	8238	100

Source: National Bank of Hungary: The Hungarian Banking Sector, Developments in the First Half of 2000.

Large Banks include: Országos Takarékpénztár és Kereskedelmi Bank (OTP), ABN Ambro Magyar Bank, Budapest Hitel- és Fejlesztési Bank, Kereskedelmi és Hitelbank, CIB Közép-európai Nemzetközi Bank, Magyar Külkereskedelmi Bank, and Postabank és Takarékpénztár.

Medium-sized bank include: Általános Értékforgalmi Bank, Bank Austria Creditanstalt Magyarország, BNP-Dresdner Bank, Citibank, Commerzbank, Erste Bank Hungaria, HYPO Vereinsbank Hungaria, ING Bank Magyarország, Inter-Európa Bank, Magyar Takarékszövetkezeti Bank, Raiffeisen Bank.

Small Banks include: Cetelem Bank, Credit Lyonnais Bank Magyarország, Daewoo Bank, Deutsche Bank, Hanwha Bank Magyarország, IC Bank, Konzumbank Kereskedelmi Bank, Magyarországi Volksbank, Merkantil Bank, Opel Bank, Polgári Kereskedelmi Bank, Porsche Bank, RABO Bank, Sociéte Générale Hungária, Westdeutche Landesbank Hungaria.

Specialized Credit Institutions include: Magyar Fejlesztési Bank, Eximbank, Földhitel és Jelzálog Bank, Hypovereins Jelzálog Bank.

Home Saving Institutions include: Fundamenta Lakástakarékpényztár, Lakáskassza, OTP Lakástakarékpénztár, Otthon Lakástakarékpénztár.

Table 9.

Market Share of Banks in Hungary

	Privatization		Market Share	
	Year	Method	1993	2000
OTP Bank	1995	Privatization	31.6	22.9
Magyar Külkereskedelmi Bank (MKB)	1994	Privatization	9.1	9.4
CIB Bank	1979	Greenfield	4.2	8.0
Kereskedelmi és Hitelbank (K&H)	1997	Privatization	8.8	7.3
ABN Amro Bank (1993: MHB)	1996	Privatization	13.6	5.9
Raiffeisen Bank	1986	Greenfield	1.4	4.1
Budapest Bank	1995	Privatization	6.0	4.0
Postabank	1990	Privatization	6.4	3.9
Általános Értékforgalmi Bank (ÁÉB)	1990	Privatization	1.0	3.9
Bank Austria Creditanstalt	1990	Greenfield	1.0	3.8
Citibank	1986	Greenfield	1.4	3.7
Erste Bank (1993: Mezőbank)	1997	Privatization	1.3	2.4
HypoVereinsbank	1993	Greenfield	---	2.2
Inter-Europa Bank	1989	Privatization	1.5	1.8
ING Bank	1991	Greenfield	0.8	1.7
Magyar Takarékbank	1997	Privatization	1.4	1.4
Commerzbank	1993	Greenfield	0.4	1.7
BNP – Dresdner Bank	1991	Greenfield	0.6	1.1
Total	---	---	90.5	89.2

Source: Varhegyi (2001, p. 587). Based on total assets share. Only banks with share over one per cent in 2000.

3. Exchange Rate Policy

3.1 General Consideration of Pre-Accession Exchange Rate Policy

In the Central and Eastern European transition countries the present exchange rate regimes differ substantially, as they cover almost the complete spectrum of the possible exchange rate arrangements, from currency boards to managed float. This holds if all ten Central and Eastern European accession countries are considered. In Box 1 we present a short description and comparison of these regimes only in Visegrad countries. In this relatively homogenous group of countries we observe that all four countries move from a fixed regimes towards increasingly flexible regimes.

Box 1: Hungary in a Comparison: Exchange Rate Policies in Visegrad Countries

All four Visegrad countries began their stabilization programs with fixed exchange rate regimes, as table below shows. Poland and the former Czechoslovakia introduced rigid pegs in January 1990 and January 1991, respectively, while Hungary adopted an adjustable peg in March 1990. The choice of fixed exchange-rate regimes (in contrast to floating rates chosen by most Balkan and former Soviet Union countries) reflected the Visegrad countries' commitment to price stability. In addition, the Visegrad countries also had sufficient foreign exchange reserves needed to sustain a fixed exchange rate.

Table 10.

Exchange Rate Regimes in the Visegrad Countries

	Fixed Exchange Rate Regime		Limited Flexibility		More Flexible Exchange Rate Regime	
	Currency Board	Conventional Peg	Explicit Narrow Band	Tightly Managed	Broad Band	Managed Free Float
Czech Republic	01/91----------→02/96----------→05/97					
Hungary	03/90----------→03/95----------→05/01					
Poland	01/90----------→05/92---------→05/95---------→01/99----------→04/00					
Slovak Republic	01/91----------→08/98					

Source: Fidrmuc, Fidrmuc and Horvath (2001), based on Corker et al (2000, p.4) and updated. Dates indicate the month and year of regime change.

With time, all four countries significantly relaxed and eventually abandoned fixed exchange rates in favor of more flexible regimes. Nevertheless, the fixed exchange-rate regime at the beginning of transition was crucial for reigning in or preventing run-away inflation, delivering macroeconomic stability, and facilitating liberalization of foreign trade and introduction of current account convertibility. In order to ensure the credibility and sustainability of the peg, the currency had to undergo a substantial initial devaluation at the outset of transition. The devaluation also served to improve the competitiveness of domestic producers in the wake of foreign-trade liberalization.

The first step towards floating occurred in the second half of the 1990's when the Czech Republic, Poland, and Slovakia were forced to extend their fluctuation bands. This step was in fact precipitated by the appreciation of their currencies. However, the Czech Republic found itself facing a reversal of capital flows and a simultaneous decline of FDI, leading up to the currency crisis of May 1997. As a result, the Czech Republic floated its currency rate as of May 27, 1997. A similar development unfolded in Slovakia, where a floating exchange rate has been adopted as of October 1, 1998, shortly after the September 1998 election. In January 1999, Poland switched to inflation targeting and extended the fluctuation bands for Polish Zloty to ±15%. This range provided a sufficient space for the accommodation of short-term fluctuations. Simultaneously, the National Bank of Poland announced a plan to float the Zloty. This step was eventually adopted by April 12, 2000. Hungary sustained a fixed exchange-rate regime (crawling peg with narrow fluctuation bands) until Spring 2001. On May 4, 2001, Hungary extended fluctuation bands from ±2.25 % to ±15%. Subsequently, Hungary followed Poland and introduced inflation targeting on June 12, 2001 and lifted the remaining foreign exchange restrictions as of June 15, 2001.

It is often argued that the main reason behind the recent adoption of floating has been the liberalization of the capital account transactions. Thus, the development in the Visegrad countries confirms the widely held thesis that immediate exchange rate regimes are no longer a suitable option for small countries, which have liberalized capital movements. These countries are thus pushed towards the corner solutions – either floating, or irrevocably fixed exchange rates. As a result, the Visegrad countries adopted (managed) floating exchange rate regime, while currency boards or dollarization/euroisation may be more suitable policy options for some of the other transition countries (especially those that suffer from greater macroeconomic imbalances).

The observation – that in transition economies various exchange rate regimes seem to work – may had led the European authorities to their current position concerning the exchange rate arrangements of these countries. Position of the European authorities seems clear: till these countries join the EU there are no restrictions on the choice of their exchange rate regime.[25] Hungary as well as any other pre-accession country will first enter the EU and the ERM Two (exchange rate mechanism which gets into force before EMU membership but after EU membership),[26] and only later joins the EMU and adopt the euro.[27] Joining the European Monetary Union will be the final phase of the process towards integration, and according the views of the ECOFIN this process will consist of three periods.

In the first one – the current pre-accession period – transition pre-accession country decides what exchange rate regime to introduce. This bears no restriction on the exchange rate regime, however there is a requirement to adopt acquis communautaire concerning the monetary integration requirements. This includes among others liberalization of capital flows and central bank independence.[28] While in this first stage there is no explicit formal restriction on the choice of the exchange rate regime, it is expected that "policies should be oriented towards achieving real and thereby sustainable nominal convergence." European Economy (2001, p.1).

In the second period in which the transition country is already a member of the EU, there are some restrictions on the exchange rate regime. In this period excessive exchange rate fluctuations or misalignments should be avoided. The third period contains the introduction of euro, since the EU has decided that no more opt-out clauses from the European Monetary Union will be guaranteed to future EU members.

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[25] An exception maybe the earlier introduction of euro, i.e. unofficial euroization. For the position of the European authorities see ECOFIN (2001), on description see Lavrac (2001).

[26] Exchange Rate Mechanism Two determines a bilateral relation between a member currency and the euro. Central parity towards the euro is determined jointly with the ECB and the band may be of ± 15%, although narrower band is in principle also possible, if ECB agrees. Realignment of the central rate is possible by agreement with the ECB. But the Maastricht criterion on exchange rate stability requires that currency is kept for two years between normal fluctuation margins without re-alignment.

[27] Theoretically, there is a possibility to adopt the euro earlier by unilateral euroization. In contrast to Poland, this issue does not seem to be much scrutinized in Hungary.

[28] Maastricht Treaty does not allow EC-member central banks to extent financing and credit to community institutions and central agencies, and neither it allows the central banks to directly purchase debt securities from these institutions. Hungarian Central Bank confirms with this regulation – except for the transitory liquidity crunch situations – and purchases government papers only in the secondary market. See Monetary Policy in Hungary, 2000.

On June 19, 2001 the Hungarian Parliament passed the new Act on the National Bank of Hungary, which complies with the acquis communautaire of the EU. The Law guarantees the independence of the National Bank of Hungary from the Hungarian Government. Personal independence of members of the Bank's decision-making bodies are strengthened under the new law. Members of the Monetary Council, the Bank's supreme decision making-body are appointed for a six year term, while the election cycle is of four years.

3.2 Hungarian Exchange Rate Policy in Transition

We distinguish three basic periods in the evolution of Hungarian exchange rate policy in transition. The first is the period from the beginning of transition till the introduction of the adjustment program in March 1995. In the first period the exchange rate regime is an adjustable peg, characterized with numerous realignment. The second period runs from March 1995 till May 2001. In this period the exchange rate regime is a crawling peg with pre-announced devaluation and narrow band. The third period begins in May 2001 and runs till today. In this period, first the crawling peg was kept till October 2001, but the band was considerably widened, and the rate of pre-announced devaluation decreased. Finally, in October 2001 the pre-announced devaluation was abandoned. Consequently, currently (late May 2002) the Hungarian exchange rate regime is a target zone with ±15 % band.

3.2.1 From the Initial Steps till the 1995 March Adjustment Program

Hungary's decision in the beginning of the 1990s to introduce fixed but adjustable exchange rate reflected the approach prevailing at the beginning of transition to treat fixed exchange rate as a nominal anchor.[29] However, in difference for example to the Czech Republic[30] Hungarian fixed exchange rate did not perform well in its anchoring function. In the period from January 1990 till March 1995 the forint was devalued twenty-two times on a discretionary basis.[31] The exchange rate band increased somewhat but was still kept very tight. This is documented in Tables 11 and 12. Exchange-rate adjustments were directed by considerations of containing inflation, and maintaining competitiveness of the tradable sector.[32] This type of exchange rate policy encouraged speculation against the domestic currency,[33] and under-mined the credibility of the central bank.[34]

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[29] Halpern and Nemenyi (1999, p. 432) write "targeting monetary aggregates was not feasible".

[30] See Horvath and Jonas (1998) for analysis of the Czech exchange rate policy in the early 1990s.

[31] Szapary and Jakab (1998, p. 881) write that these devaluations were typically a reaction to inflationary and balance of payments developments.

[32] Halpern and Nemenyi (1999, p. 432), Szapary and Jakab (1998, p. 878).

[33] Szapary and Jakab (1998, p. 881) write that the speculation about new possible devaluation began immediately after the last devaluation had occurred. This was done by delaying of repatriation of foreign currency earned from export or earlier invoicing in imports. As it is typically the case in the pegged but adjustable regime, policy makers postpone devaluation, and then devalue less than the market calls for.

[34] The National Bank of Hungary has also acknowledged this loss. "In the end, 1994 monetary policy failed to obtain its basic economic goals" National Bank of Hungary Annual Report 1994, quoted from Golinelli and Rovelli (2001, p. 6).

Table 11.

Official Devaluation of the HUF; January 1990 – February 1995

	In percentage		In percentage
31. January 1990	1.0	06. February 1990	2.0
20. February 1990	2.0	07. January 1991	15.0
08. November 1991	15.8	16. March 1992	1.9
24. June 1992	1.6	09. November 1992	1.9
12. February 1993	1.9	26. March 1993	2.9
07. June 1993	1.9	09. July 1993	3.0
29. September 1993	4.5	03. January 1994	1.0
16. February 1994	2.6	13. May 1994	1.0
10. June 1994	1.2	05. August 1994	8.0
11. October 1994	1.1	29. November 1994	1.0
03. January 1995	1.4	14. February 1995	2.0

Source: National Bank of Hungary, homepage.

Table 12.

Changes in the Width of the HUF band

From 01.07. 1992	± 0.3 %
From 01.06. 1994	± 0.5 %
From 05.08. 1994	± 1.25%
From 22.12. 1994	± 2.25%

Source: National Bank of Hungary, homepage.

At the beginning of the 1990s – in difference to some other transition economies – Hungary faced a relatively high level of external debt.[35] Thus in addition to typical 'transition' issues Hungarian policy makers were also to avoid possible debt crisis.[36] Government policies were successful in a sense that they avoided the debt crisis, while the chaotic exchange rate policy may be a consequence of it. Szapary and Jakab (1998, p. 880) confirm this view by arguing that while it would be possible to fix the forint to any hard currency in the early 1990s, but that would endanger the competitiveness of the economy. This view reflected the experience of the 1980s, where balance of payment problems were typically tackled by adjusting the value of the forint, which after some lag appeared as inflationary pressure in the domestic economy.

Inflationary inertia was difficult to contain.[37] Consumer price index was over 30 per cent in 1991, then decreased for two consecutive years and again climbed up in 1994. The ratio of budget and current account deficit to the gross domestic product were both approaching ten

[35] In 1990 the ratio of the gross debt to gross domestic product was around 70 %.

[36] It needs to be noted that successive Hungarian governments in difference to some other transition countries were always in support of servicing the debt, and did not ask for rescheduling or default.

[37] Twenty percent and higher inflation prevailing in 1992 to 1994 had two sources: inertia of expectations and the Balassa-Samuelson effect. "While due to the increasing competition the tradable prices have become determined increasingly by the world market prices and the exchange rate, the productivity and wage increase in the tradable sector influenced the non-tradable wages, which notwithstanding, added some further impetus to inflation." (Halpern and Nemenyi 1999, p. 432).

percent of gross domestic product, and there were signs of continuation of this process. There was also an increase in the ratio of gross and net foreign debt to gross domestic product. Market expected further devaluation of the forint, and short-term outflow of capital was noticed. As the Central Bank document itself stated, "in the wake of several unexpected devaluations the earlier fixed, but adjustable exchange rate regime lost its credibility."[38] As a result in March 1995 an adjustment stabilization package was designed and introduced.[39]

3.2.2 March 1995 – May 2001: Crawling Peg with Pre-Announced Devaluation

The 1995 stabilization program involved an introduction of a new exchange rate regime. Crawling peg was to play the role of the nominal anchor to influence inflationary expectations, thus possibly decreasing inflation at relatively low real costs. Hungarian policy makers rightly wanted to influence inflationary expectations, and to put a brake on the inflationary inertia. Gacs (2001) connects the emergence of inertia of inflationary expectations already with the socialist period. Note that in the 1980s the consumer price inflation rate was on average around 10%. In Box 2 we consider empirical evidence which may suggest a long-memory inflationary inertia.

Box 2: Hungary and the Czech Republic in Long-Run Perspective

Monetary processes may have long memories. In this respect Hungary – looking at the experience of the 20th century – seems to be a country with relatively easy money policy. At least this can be documented comparing the behavior of Hungarian currency compared to the Czech (Czecho-Slovak) currency during the last century. Exposed to similar shocks Czechoslovakian (and subsequently Czech and, to a somewhat lesser extent, Slovak) policy makers were typically able to keep the domestic currency stable. This is documented in the table below for the period 1913-2000.

[38] Monetary Policy in Hungary, (May 2000, p. 54).

[39] For an in-depth analysis of the pre-1995 period see Suranyi and Vincze (1998), Halpern and Nemenyi (1999), and Szapary and Jakab (1998).

Table 13.

Hungarian and Czechoslovak (Czech) currency, 1913-2000

	Czecho-slovakia	Hungary		Czecho-slovakia	Czech Republic	Hungary
1913	20.26	20.26	1988	14.37		50.41
1920	1.60	0.201	1989	15.06		59.07
1921	1.26	0.15	1990	18.56		63.21
1922	2.41	0.043	1991	29.56		74.73
1923	2.95	0.0052	1992	28.30		78.98
1924	2.95	0.0017	1993		29.15	91.91
1925	2.97	0.0014	1994		28.79	105.11
1926	2.96	17.56	1995		26.54	125.69
1929	2.96	17.44	1996		27.14	152.65
1932	2.96	17.45	1997		31.70	186.79
1933	3.69	21.47	1998		32.29	214.40
1934	4.25	28.99	1999		34.57	237.15
1938	3.46	29.41	2000		38.60	282.18

For the period 1913:1938: US cents of contemporary gold content per unit of currency for the period.

Hungary: korona (1913-1925), Pengo (from 1925 on); Czechoslovakia, the Czech Republic, the Slovak Republic: koruna. Note in the pre-1934 parity a fine ounce of gold was $20.67, and after 1934 onwards $35.00. An increasing number means appreciation of the domestic currency. Source for the period 1913-1938 M.C. Kaser ed. The Economic History of Eastern Europe 1919-1975, Clarendon Press, Oxford, 1985, p. xii.

For the period 1988-2000: annual averages, national currency units per dollar. Source for the period 1988-2000 United Nations, Economic Commission for Europe, annual averages are un-weighted arithmetic averages of monthly values.

Source: Fidrmuc, Fidrmuc, Horvath (2002).

The 1995 adjustment program helped to re-instate – at least in the short run – the fiscal discipline. The outright devaluation of the forint by 9 per cent was to increase competitiveness of the tradable sector. The intention was that the crawling peg with pre-announced devaluation scheme[40] enables to regain the lost credibility of the previous period. There was clearly a need for such a step, since to regain the credibility of monetary authorities – after the bleak performance of the previous regime – was a must.

There was a shift in policy makers understanding of the exchange rate policy. In the first period the exchange rate policy was to follow two main priorities: reduction of the rate of inflation and simultaneously to help current account problems. By 1995 it had been recognized that this concept is not sustainable any more. Monetary policy begins to put priority to reduction of inflation.

However, in this regime the independence of the monetary policy has been reduced. Evidently this regime meant a constraint on the central bank's interest rate policy.[41] The

[40] Szapary and Jakab (1998, p. 882) write the central bank and the government announced the monthly devaluation rate of the crawling peg couple of weeks before the rate became to be effective so that the market agents had sufficient time period to adjust.

[41] "Naturally, with a quasi-fixed exchange rate and liberal capital-market regulation, which Hungary had, there was limited scope for monetary policy in its proper sense. The operational target of the NBH was the interest-rate differential – that is, to keep domestic interest rates in accordance with the exchange rate and inflation goal. The

gradual liberalization of money and capital markets, and the new crawling peg regime led to tighter connections between the domestic and foreign interest rates through uncovered interest rate parity, which reduced the room for the domestic policy makers.[42]

The introduction of pre-announced crawling peg has made the future exchange rate changes more predictable. The exchange rate has become the nominal anchor in the economy. Table 14 below shows the evolution of the pre-announced devaluation rates.

Table 14.
Official Devaluation of the Forint, 1995-2001

	In percentage		In percentage
13. March 1995	9.0; no daily devaluation	16. March 1995 -	1.9; daily devaluation 0.060
29. June 1995 -	1.3; daily devaluation 0.042	02. January 1996 -	1.2; daily devaluation 0.040
01. January 1997-	1.2; daily devaluation 0.040	01. April 1997 -	1.1; daily devaluation 0.036
15. August 1997-	1.0; daily devaluation 0.036	01. January 1998 -	0.9; daily devaluation 0.030
15. June 1998-	0.8; daily devaluation 0.026	01. October 1998	0.7; daily devaluation 0.023
01. January 1999-	0.6; daily devaluation 0.02	01. July 1999	0.5; daily devaluation 0.0163
01. October 1999-	0.4; daily devaluation 0.0133	01. April 2000	0.3; daily devaluation 0.0098
01. April 2001-	0.2; daily devaluation 0.0066	04 May 2001-	0.2; daily devaluation 0.0066
01. October 2001-	no daily devaluation		

Source: National Bank of Hungary, homepage. The first number indicates the monthly rate of devaluation.

Szapary and Jakab (1998, p. 883) write that the crucial aspect of the success of the crawling peg regime was the fact that the growth momentum of 1997 – for the first time in the period of twenty years – was not linked with worsening of the balance of payments.

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minimum level of interest rates can be derived from the pre-announced band. The interest-rate policy had the task of keeping interest rates as close to the parity rate implied by the rate of crawl as necessary to reduce short-term, speculative international capital movements and as high as necessary to ensure long-run equilibrium between savings and investment." Halpern and Nemenyi (1999, pp. 433-434)

[42] "Under the crawling peg regime the central bank's independence in setting interest rates is determined by the exchange rate and the country risk that investors perceive and the width of the exchange rate's fluctuation band. When interest rates fail to coincide with the yields expected by foreign investors – for instance, because of changes in the risk premium – the forint moves within the exchange rate band and eventually, in case of a significant misalignment, foreign exchange intervention evolves at the edges of the fluctuation band." Monetary Policy in Hungary, May 2000, p. 58.

Table 15.

Macroeconomic Indicators to Evaluate the Crawling Peg Commitment

	1994	1995	1996	1997	1998	1999	2000
Real GDP	2.9	1.5	1.3	4.6	4.9	4.2	5.2
- consumption	-2.3	-6.6	-2.9	2.3	4.1	4.2	3.1
- investment	12.5	-4.3	6.7	9.2	13.3	5.9	6.6
- export	13.7	13.4	8.4	26.4	16.7	13.1	21.8
Consumer Prices	18.8	28.2	23.6	18.3	14.3	10.0	9.8
Real Exchange Rate on PPI	-4.7	-5.3	3.8	5.4	-3.7	0.3	4.5
Capital Inflow in millions of Euro	1903	4348	-730	602	2582	4417	2863
- Interest Induced		2700	1696	1303	-29	1328	2200
-From which Speculative		2520	963	782	-585	115	1018
Current Account as % of GDP	-9.4	-5.5	-3.7	-2.1	-4.8	-4.4	-3.3
Net External Debt as % of GDP	42.7	34.9	28.9	22.6	21.4	18.9	18.3

Source: Varhegyi (2001, p.20, 24).

An exchange rate based stabilization program is typically successful if the exchange rate policy is credible and sustainable. This means that the external commitment of the government cannot be in contradiction with its fiscal, income and monetary policy.[43] Under a relatively fixed exchange rate and a free capital mobility the monetary policy is constrained. This means that the interest rate is determined to a certain extent by the implications of the un-covered interest rate parity, and there is not much space for a truly independent interest rate policy. Thus, from the point of view of sustainability of the exchange rate regime the more important become the fiscal and the income policy.

Table 16.

Fiscal, Income and Exchange Rate Policy during the Crawling Peg

	1995	1996	1997	1998	1999	2000
Actual Depreciation; %	15.22 (all year 28)	15.72	14.14	10.41	5.50	4.00
Official Depreciation; %	26,8	19,0	15,1	13,8	7,4	4,0
General Government Expenditures in % of GDP	47.2	43.2	42.3	42.8	41.0	40.0
General Government Primary Balance to GDP	1.6	4.3	2.9	1.9	1.8	1.4
Net Wages, % change	12.6	17.4	24.1	18.4	12.7	11.4

Source: Varhegyi (2001, p.20 and 23).

Table 16 seems to highlight the fact that except for 1998 and to some extent 2000 the fiscal policy was to a large extent consistent with the exchange rate policy. In other words the

[43] There was a substantive devaluation of forint in 1995. All in all in the first half of 1995 forint lost around 20 percent, which was sufficient to avoid real appreciation. The projected inflation rate was around 24-26%, the real CPI inflation little bit higher, but sill the scale of devaluation held back worsening of the current account deficit. "Indeed, the depreciation of the forint on the foreign exchange markets was over 5 percentage points less than the official devaluation of the band-centre." Varhegyi (2001, p.4). In 1995 the forint parity devalued by almost 30%, while the market rate approximately by 24%. In 1996 the two measurements of devaluation were approximately equal. Varhegyi (2001, p. 22).

declining rate of devaluation occurred jointly with decreasing of the share of government expenditures as the percentage of GDP, as well as with the modest rate of growth of public borrowing. Varhegyi (2001, p. 6) writes that "in the most part of the past six years, the budgetary policy did not threaten the sustainability of the announced rate of devaluation through increasing the volume of domestic loans."

As Table 16 indicates growth of wages exceeded the rate of parity devaluation. Varhegyi (2001, p. 6-7) adds that the increase in the growth of wages should be seen in a more positive way if "adjusted by productivity growth, which was 5 per cent in 1993, and an average of 3 per cent in the 1996-2000 period."

Monetary policy –although restrained by the exchange rate regime – also attempted to "slow down the fall in domestic interest rates as much as possible."[44] But while this higher interest rate supported savings it simultaneously led to interest rate premium resulting in capital inflows. These flows were pushing for an appreciation of the currency. This was reflected also in the fact that except for periods of international financial turbulence, forint was moving typically in the appreciated section of the band.

In summary, then it seems that the crawling peg performed well as a nominal anchor, alleviated competitiveness,[45] and helped to increase the credibility of the policy makers.

3.2.3 May 2001: New Exchange Rate Regime

The crawling peg was successful in bringing down the inflation from close to 30 percent to about 10 percent, and also it stabilized inflationary expectations and thus help to raise the credibility of the National Bank of Hungary. However, the disinflationary process under the crawling peg regime was considered to be quite slow. Single-digit inflation was achieved in the Czech Republic and Slovakia in 1995, in Slovenia in 1996, in Latvia and Lithuania in 1997; Bulgaria, Estonia and Poland in 1999, while in Hungary only in 2000.[46] In addition the disinflation was halted in the second half of 2000.[47]

There were also some other reasons, which contributed to the abandoning of the crawl. Hungarian exchange rate policy coped with capital inflow pressures. These inflows kept the

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[44] Varhegyi (2001, p. 6). These higher interest rates than led to speculative capital inflows, which were counteracted by the central bank sterilization policy. Central Bank typically used passive repo operations to counterbalance the excess liquidity generated by these flows. Szapary and Jakab (1998, p. 895) calculate the costs of sterilization in the period from spring 1995 till the end of 1997. Their calculation estimates the cost in 0.16 per cent of yearly GDP.

[45] The improved competitiveness of Hungarian economy was to a large extent a result of productivity growth. Since this growth was faster than in most of Hungary's western trading partners the rate of devaluation could lag somewhat behind the inflation differential.

[46] Gacs (2001, p. 7).

[47] There were different reasons for slowing down of the disinflationary process: inertia in inflationary expectations, volatility of the oil price, depreciation of euro towards dollar, inflationary momentum in food prices and in some non-tradable prices, and finally maybe the exchange rate regime itself.

forint at the appreciating section of the band, which pressured the central bank to cut interest rates to weaken the incentives for inflow. However, the loosening of the monetary stance might re-awaken inflation, especially if conditions were tight at some segments of the Hungarian labor market, and if growth was rather significant. Such pressures were sometimes difficult to keep, and were prompting the central bank to increase the rates.[48] These contra-dictory tendencies tied the hands of the central bank and – among others – contributed to the atmosphere of a need of change of the regime.

Another reason for the introduction of new exchange rate regime was the change in the leadership of the Central Bank. However, as alluded to already, the strongest reason for abandoning the crawling peg was the fact that Hungary still had comparatively high inflation at the beginning of 2001. The decision was taken to speed up disinflation, and curb the inertia fuelled by inflationary expectations. In order to make easier the management of the higher exchange rate risk, which followed from the wider intervention band, government removed all barriers to the free movement of capital in mid-June 2001. See Box 3 for a description of the policy steps done by the NBH after March 2001.

This dis-satisfaction with the crawling peg led to the introduction of the new exchange rate regime. When deciding on the new exchange rate regime different options were possible[49] from which the policy makers in May 2001 have chosen a wide band around the central parity.

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[48] "The narrow-band crawling exchange rate regime left very little space for the NBH to maneuver. Sometimes, the central bank was compelled to cut the interest rates even when the economy did not justify such a move. This happened for example in early 2000, when the massive capital inflow got the bank to slash the interest rates, although neither a halt in disinflation nor a dangerously low level of savings warranted this measure. Thus, the monetary policy, losing from its tightness in the inflexible exchange rate regime, became unable to perform the function it was originally designed for, namely to curb inflation." Varhegyi (2001, p. 15).

[49] One possibility would be a currency board. Tying the hands of the monetary policy-makers seems not to be an option in case of the highly qualified staff and leadership of the Hungarian Central Bank. In addition, the credibility of the bank is very high after the success of the crawling peg regime. Furthermore, the trend real appreciation – which seems to be justified by rapid productivity growth – is better accommodated under more flexible regime. See Masson (1999, p. 15).

Box 3: Policy of the NBH after Appointment of the New President

2001

March 2, Zsigmond Járai was appointed president of the National Bank of Hungary (NBH). Decision to reduce the monthly devaluation rate from 0.3 to 0.2 % from April 1, 2001.

May 3, the NBH had widened the exchange rate band in which currency fluctuates against the euro to 15 % while still it retained the 0.2 % monthly rate of crawling peg devaluation. The Central Bank Council declared sustainable reduction of inflation as the principal objective of monetary policy.

June 15, Hungarian government lifted all foreign exchange restrictions and implemented the full convertibility of forint in terms of current as well as capital transactions for both residents as well as non-residents. The earlier legal obligation of repatriating foreign exchange is removed. Hungarian residents can open forint and foreign currency accounts abroad without applying for permission. Foreign currency obtained under any title whatever is permitted to be credited on foreign currency accounts of residents or non-residents. Transactions in foreign currency is allowed in Hungary.

June 12, The NBH has introduced program to attain a price stability (2 % inflation) to fulfill the Maastricht criteria by 2004/2005. The NBH has set the end-2001 target at 7 % and for end-2002 at 4.5 %. To this target the Central Bank has set a 1 % 'tolerance' band on both sides.

June 19, The Hungarian Parliament passed the new Act on the National Bank of Hungary, which complies with the acquis communautaire of the EU. The Law guarantees the independence of the NBH from the Hungarian Government. Personal independence of members of the Bank's decision-making bodies is strengthened under the new law. Members of the Monetary Council, the Bank's supreme decision-making body are appointed for a six year term.

July 13, The interest rates on the Central Bank's instruments are: two-week central bank deposit (central bank base rate) 11.25%; overnight central bank deposit (central bank base rate less 2 percentage points) 9.25%; overnight repo (central bank base rate plus 2 percentage points) 13.25 %.

July 23, Central Bank in the official Evaluation of Monetary Policy Statement states that "since the change in the exchange rate system, the central bank has not made any interest rate changes, but the widening of the band has been followed by an appreciation of the forint. The key factor behind the appreciation has been higher external demand for long term government securities.

August 21, The Monetary Council accepted to abandon the crawling peg devaluation of the forint from 1 October 2001. The central parity was fixed at 276.1 HUF per one euro. Implicit inflation targeting was introduced in which the central parity lost its earlier function of a nominal anchor. The NBH will attempt to guide inflation expectations via a disinflation path (regular inflation forecasts will be publicly available). This will provide market with a nominal anchor to develop expectations.

September 10, The Monetary Council reduced central bank base rate by 25 points. The interest rate on the NBH base rate (two-week central bank deposit) is 11%.

September 24, The Monetary Council was of the opinion that the September 11 terror attack justifies widening of the gap between forint and euro interest rates. Thus, the NBH did not follow ECB in reducing interest rates.

October 24, The Monetary Council reduced central bank base rate by 25 points to 10.75%.
November 13, The Monetary Council reduced central bank base rate by 50 points to 10.25 %
December 11, The Monetary Council reduced central bank base rate by 50 points to 9.75%.

2002

January 7. The Monetary Council reduced central bank base rate by 25 basis points to 9.5%.
January 21, The Monetary Council reduced central bank base rate by 50 basis points to 9%.
February 18, The Monetary Council reduced central bank base rate by 50 basis points to 8.5%.
March 18, The Monetary Council has left the central bank base rate unchanged at 8.5%.
April 8, The Monetary Council has left the central bank base rate unchanged at 8.5%.
April 22, The Monetary Council has left the central bank base rate unchanged at 8.5%.
May 21, The Monetary Council has increased the central bank base rate to 9.0%.

Hungarian Central Bank provided the following explanation for the change of the exchange rate regime. "However, for the past two years, no further reduction has been made in the rate of price increases. Although the factors to blame for this unfavourable situation also included a series of negative inflationary shocks and a higher rate of imported inflation over the past two years, still a more ambitious disinflation policy calls for a more active monetary policy. However, this was not possible under the previous narrow-band exchange rate regime, as the Central Bank had to totally subordinate its interest rate policy to the external developments. In fact, the only freedom left for the Central Bank and the Government lay in setting the rate and date of the pre-announced devaluation. Widening the range within which the exchange rate is allowed to fluctuate will diminish the subjugation of interest rate policy and enable the Central Bank to develop its benchmark rates and hence the exchange rate so that the designated disinflation path can be maintained."[50]

This is supported also in the IMF assessment, too. "Directors agreed that the narrow crawling exchange rate band had contributed to Hungary's past successes, but that it had outlived its usefulness. In view of the present and prospective challenges to policy, they welcomed the widening of the band, which should facilitate the central bank's efforts to reduce inflation by providing the necessary leeway to tighten monetary conditions, when needed, including through a moderate appreciation of the forint. Most agreed that a moderate appreciation, if it occurred, would not derail Hungary's strong external competitiveness. Greater exchange rate flexibility would also strengthen the financial system by discouraging speculation and unhedged borrowing." (IMF, 2001 p.3).

This decision to widen the band and to stop the pre-announced devaluation also meant moving away from exchange rate targeting and to look for a more credible way to decrease inflation. A few weeks after the band widening, the NBH announced the introduction of the inflation targeting.[51] One month later the NBH published the inflation target band for the coming 18 months. The targeted inflation rate was 7 percent by the end of 2001, 4.5 percent by the end of 2002, and 3.5 percent by the end of 2003 with a ± 1 percent degree of tolerance.

Inflation targeting gives a policy freedom to policy makers to carry out a more independent monetary policy and allows them to link different policy instruments to the targeted inflation index. The real question about the success of the inflation targeting will depend on the strength of monetary policy makers and their independence from the fiscal framework. There is a certain fear that the expansive fiscal policy, which was a prelude to the election competition in the spring 2002 may continue. Fiscal dominance, which would – in one way or

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[50] National Bank of Hungary: Statement on the New System of Monetary Policy on June 12, 2001.

[51] As it is known inflation targeting is a monetary policy framework characterized by official announcement of quantitative target ranges or targets for the inflation rate for certain time horizons. It is an important part of the monetary targeting that the central bank makes its plans concerning the inflation publicly available and transparent, and that public is persuaded that stable low inflation (or disinflation) is credibly the goal of the central bank.

the other – dominate monetary growth will have negative impact on the success of inflation targeting.[52]

Also, it is not clear yet how accurately will be the NBH able to hit the inflation target. As Masson (1999, pp. 18-19) argues it is essential that the policy makers have reliable and generally accepted way of making inflation targeting forecasts 'so as to justify raising interest rates when necessary to preempt potential inflationary pressures that may not be visible in actual inflation data." In Box 4 we provide a general evaluation of the inflation targeting in Hungarian condition based on an excellent study of Siklos and Abel (2002).

The extent to which the new monetary policy framework will succeed in curbing inflation remains to be seen.

[52] The IMF Executive Board Assessment from May 2001 clearly warned that "monetary policy could not by itself achieve both inflation and external objectives, especially in the context of robust economic growth, and that it will be important to have an appropriate fiscal adjustment." (IMF 2001, p.3.) Conservative government (1998-2002) seemed to favor creating a strong state with active fiscal stimuli policy (Széchenyi Plan for example). The same Executive Board Assessment from May 2001: "Directors agreed that a broadly neutral fiscal stance in 2001 and 2002 – which would require a substantial withdrawal of fiscal stimulus relative to that embedded in the budget and in planned off-budget spending – would be appropriate."

Box 4: Requirements for Inflation Targeting and Their Status in Hungary

Institutional Requirements	Rationale	Status in Hungary	Comment
Central Bank Independence	The central bank needs a free hand to attain its inflation objective	Yes	Hungarian law provides sufficient autonomy to NBH
Effective Monetary Policy Instrument	The central bank should have a major instrument that can inform markets about its stance in monetary policy and that can influence expectations of inflation	Yes	The two week repo rate
Accountability	Clarity is required about the responsibilities of the central bank in achieving stated price stability objectives	Yes	Prior to June 2001 legislation did not require the President of the NBH to testify in Parliament and appointment procedures were not conducive to accountability
Disclosure	Central bank ought to communicate clearly and frequently with government, market and public.	Yes	Quarterly Inflation Report, frequent press reports
Exchange Rate Regime	Flexibility of exchange rate is required so the domestic monetary policy determines monetary conditions	Yes	Target zone regime with ± 15 % bands provides necessary flexibility
Responsibility	Inflation targets must be announced by government as an agreed to objective that is to be met by the central bank	Yes	Recognition in 2001 that responsibility for announcing inflation targets is a joint one between the NBH and Ministry of Finance
Harmony with the Fiscal Policy	Fiscal policies need to be compatible with inflation targeting	Yes (?)	There are some doubts on the compatibility of the policy mix
Public Support	The public should consider the adopted strategy as the most appropriate one under the circumstances	Yes (?)	Public does not seem to be adequately informed or rather does not see the need for low inflation when moderate inflation produces good results.
Well Developed Financial System	Financial markets should generate strong preference for price stability	Yes	Maybe the most developed financial system in transition countries
Economic Requirements	Rationale	Status	Comments
Choice of a Price Index	The inflation objective must be set in terms of an index that is widely understood and representative	CPI, core inflation	
Selection of the Width and the Horizon of the Inflation Target	Inflation targeting can be credible and simultaneously provide needed policy flexibility.	± 1 % around a specified midpoint of target band	High inflation variability and poor historical inflation record makes flexibility more desirable than otherwise but at the risk of credibility
Knowledge of the Transmission Mechanism	Policy makers ought to know how their instrument setting are likely to affect the main aggregates of the economy	Yes(?)	NBH's own acknowledgement of considerable uncertainties in this regard
Adequate Measurement	A reasonable amount of measurement error is required	Yes	Hungary has met the IMF's conditions for the Special Data Dissemination Standards

Source: Siklos and Abel (2002), some changes done by the author.

3.3 The Very Current Issue: Behavior of the Forint in the Wider Band

As a result of the widening of the band the forint began to appreciate, and it has been 8-12 percent above the parity ever since. This appreciation of the forint was accompanied by the cut of the NBH base interest rate (two-week central bank deposit) from 11.25 to 8.5 per cent from July 2001 till May 2002. In May 2002 the interest rate was increased due to the re-appearance of the inflationary pressures to 9.0 per cent. The introduction of inflation targeting had positive impact on disinflation process. In the first quarter of 2002, the consumer price index decreased to 6.2 per cent compared to 7.2 per cent in the last quarter of 2001.[53] However, in April 2002 it seems that the process of disinflation was halted.

Reasons for the appreciation of the currency were mainly connected with higher external demand for long term government securities. This increasing demand – among others – may be a consequence of very positive Hungarian credit rating.[54] Spreads on sovereign benchmark bonds are among the lowest in the region. Investors' share of holdings of forint-denominated government securities reaches record highs. After reaching the peak of the foreign owned portfolio at the beginning of July 2001 (HUF 1011 billion), it again grew in December 2001 it exceeded HUF 1060 billion.[55] These flows may become volatile under some unexpected shocks, however there seems to be enough space in the wide band to accommodate them.

Strong forint reduces Hungary's export profitability, but this has not been reflected in the current-account balance. The current account deficit figure for 2001 was revised up from 0.9 % of GDP to 2.1 % of GDP or 1248 million euros. But this was still smaller than the deficit in 2000, 1434 million euros.

There may be two different scenarios of the future development of forint before joining the euro area.

First scenario. In order to join the euro area at the earliest, Hungary must have, say, 2.0-2.5 % inflation approximately in 2005. Given strong growth in wages and productivity, getting inflation down to this level can be achieved only via appreciating forint and relatively high short-term interest rates. This is quite difficult to do in the current exchange rate regime, since currency is already trading at the appreciated side of the parity, so there is little room either for a stronger currency or higher rates (as this would attract portfolio flows and push the currency stronger). Therefore, one may think about possible re-alignment of the parity.[56]

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[53] National Bank of Hungary, "Quarterly Report on Inflation," May 2002, p. 14.

[54] For example Moody's rating is A3 from November 2000; Standard and Poor's is A- from December 2000, furthermore both rating agencies consider the situation stable.

[55] Hungarian Financial Supervisory Authority, "Report on the Development of the Supervised Sectors in the First Three Quarters of 2001," p. 12/26.

[56] ING (2002, p. 53).

In addition in April 2002 price pressure again picked up, and the base interest rate was increased, which may indicate that realignment cannot be ruled out.

Second scenario. The further development of forint will to a certain extent depend on the political will of the government. In the pre-election rhetoric there were indications that the Socialist Party (opposition at that time and the future winner of the election) has to a certain extent different view concerning the pace of disinflation. The existing targets of the Hungarian National Bank indicate expected inflation of 4.5 per cent (±1 per cent) by end-2002 and 3.5 per cent by end-2003. Compared to this view the reports in press indicate that the Socialist Party is in favor of reducing the consumer price inflation rate to 5 per cent only by end-2006. Reports in the press also indicate that the Socialist Party policy makers are of opinion that "the forint is strong enough and that the parity rate should not be revalued upward in the next two years."[57] This may then mean that weaker forint can be expected, however, that may endanger the disinflationary process and thus put the credibility of the central bank into jeopardy.

3.4 Possible Risks and Vulnerabilities

We identify the following issues, which may bear potential risks and vulnerabilities on the Hungarian exchange rate policy.

- Potentiality of a currency crisis with speculative attack against the forint forcing forint out of the band, with impact on the overall economic situation in the country. This scenario has quite a low probability. First, because of the current exchange rate arrangement and skills and determination of the NBH to defend the exchange rate regime. I consider the step to wider band regime, i.e. the step away from the insufficient flexibility of the crawl as a crucial in this respect. This may avoid the dangers of the ERM crisis in 1992-93, and forint in 2002 is not an easy target for speculators. Second, even if such currency crisis occur the healthiness of the banking sector[58] may protect the economy from becoming it a banking and financial crisis.

- Potentiality of what Gomulka (2001) calls mini-crisis. These crisis typically originate in unsuccessful policy mix. The message is that stability may be quickly lost if the policy mix is not sustainable, which for practical reasons – given the independence of the central bank and the current exchange rate regime – means to avoid un-sustainable fiscal policy.

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[57] Short Note Erste Bank, March 26, 2002.

[58] Gomulka (2001, p.7) quotes Kawalec (1999) who in a comparative study of the banking sector systemic risk assigns to Hungary the lowest score, i.e. the very low risk. Kawalec, S. "Banking Sector Risk in Selected Central European Countries," CASE Report No. 23, Warsaw 1999.

- Inflation targeting provides a better defense to potential speculative attacks than adjustable peg, or exchange rate system with narrow bands. However, Masson (1999) reminds us that inflation targeting will boost the credibility of policy makers only if it involves "more than vague commitments to bring inflation down to EU levels." Recent modest speeding up of inflation together with publicly known differences on exchange rate policy and the speed of disinflation between the two political groupings in Hungary may bear potential risks. One may also ask whether the country had already achieved a political consensus in favor of a low inflation, and also whether the NBH has already established a predictable association connecting the policy instruments and the future inflation rate. Evidently, unsuccessful inflation targeting may endanger the credibility of NBH and consequently it may effect the exchange rate behavior.

- As a result of the trend real appreciation and inflation inertia it may be a difficult task for Hungarian policy makers to achieve the Maastricht criteria for inflation.[59] The Ricardo-Harrod-Balassa-Samuelson effect implies that the price level may be kept stable only "if the exchange rate appreciates at rate that equals the product of the share of non-traded goods in the price index and the difference in productivity growth in the two sectors."[60] If exchange rate stability is preferred, then consequently the domestic inflation will be higher than the inflation of the foreign countries approximately by the same amount, and this may contradict the Maastricht nominal criteria.

- Another typical concern for overall economic risk would be bad debts to banks, but as it is indicated in the paper the weight of these debts significantly decreased.

- Certain risk stems from the perceived and maybe real contradiction between the real and nominal convergence criteria. Large capital inflows may intensify after the decision about enlargement is taken, which may lead to a conflict between the Maastricht Treaty inflation requirements and the pressure stemming from the Ricardo-Harrod-Balassa-Samuelson effect. Here two responses are possible, one may guarantee nominal convergence at the price of low growth, while emphasis on growth may counter-act the inflation criterion.

- Typical concern may be the issue of asymmetric shocks. As I tentatively document using a structural vector autoregressive model (Box 5), Hungary may be the country which should worry the least concerning the asymmetry of shocks having long-term impact on the output. Empirical work in this respect shows that from the transition countries compared to Germany Hungary is the least exposed to asymmetric permanent shocks.

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[59] Maastricht nominal convergence criteria require that inflation be no more than 1.5 per cent points above the average inflation of the best three already EU members.

[60] Masson (1999, p. 16).

Box 5: Supply and Demand Shocks: Hungary and Neighbors

In the context of the optimum currency area theory an important empirical question emerges whether Hungary is a region where country specific shocks prevail or where shocks affect Hungary similarly as other (large western) European countries. This issue has been addressed in the context of western European countries, among others, by Bayoumi and Eichengreen, (1992); Chamie, DeSerres, and Lalonde (1994), Whitt (1995), Dibooglu and Horvath, (1997); and Funke, (1999).

Lack of sufficiently long time series was one of the reasons why estimation of the symmetry of shocks between western EU members and the accession countries is relatively new phenomenon in the agenda of the empirical research concerning the EU enlargement. Frenkel, Nickel, and Schmidt (1999), Boone and Maurel (1999), Fidrmuc and Korhonnen (2001), and Horvath (2001) have addressed this issue recently.

There is no unique way of identifying different shocks affecting a given economy. We follow a strategy suggested by Bayoumi and Eichengreen (1992), where the identification strategy is based on a simple aggregate supply/aggregate demand model with a positively sloped short run, and a vertical long run aggregate supply curve. In this framework, the demand shocks only have transitory effects on output. In other words we address the problem empirically using a simple bivariate vector autoregressive model for the period 1995:1-2000:3.

Table below presents correlation coefficients measuring the correlation of supply shocks between Hungary and some European countries. These results indicate that Hungary is exposed to symmetric supply shocks as compared with Germany and Austria. Horvath (2001) show that Hungary is the only country from transition economies (Visegrad-5, and Baltic-3) which exhibits symmetric correlation of supply shocks with Germany.

Table 17.
Correlation of Supply and Demand Shocks

	Supply Shocks	Demand Shocks
Germany	**0.28**	-0.40
France	-0.02	0.26
Italy	-0.06	**0.39**
Austria	**0.28**	-0.16
Czech Republic	-0.25	**0.51**
Slovak Republic	-0.13	-0.09
Poland	-0.12	**0.37**
Slovenia	-0.00	**0.54**

Bold denotes positive statistical significance at 10%. Data for Austria calculated for the purpose of this paper, otherwise see Horvath (2001).

4. Conclusion

Today in Hungary the basic financial architecture of a market economy is in place.

The European Union has performed a very vital role in providing outside anchor for the financial and also macroeconomic development of Hungary in the 1990s. The pressure to meet the criteria for the membership in the European Union was essential in adoption and enforcement of laws and regulation important for building the Hungarian financial and banking architecture. The banking sector after consolidation, recapitalization, and

privatization has significantly contributed to the hardening of the budget constraint and thus to good real performance of the economy.

In the 1990s the Hungarian exchange rate policy maintained always certain degree of exchange rate flexibility. This flexibility was achieved either through numerous re-aligments of parity under pegged but adjustable regime, or under the pre-announced devaluation rate in the crawling peg regime, and especially by substantial widening of the band in the recently introduced target zone. There were periods when despite this flexibility the forint was for a significant time period at one edge of the band. This was the stylized fact for most of the crawling peg period as it is today during the target zone with wide band.

In exchange rate policy some inevitable tensions remain. Free capital mobility together with trend real appreciation imposes some constraints on the fixed exchange rate regime, and thus makes the combination of the exchange rate stability with low inflation rate rather problematic. A way out may be the target zone regime with wide bands and implicit inflation targeting, which was introduced in 2001.

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The Hungarian Labour Market during Transition and EU-Accession*

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1. Introduction

CEE countries experienced a severe downturn in real output after the start of the transition period. In the case of Hungary the output reduction was accompanied by a serious decline in employment and a sharp upswing in unemployment. After 1993, in parallel with expanding production, unemployment began to diminish but employment showed prolonged stagnation whereas the ratio of the inactive population continuously increased up to 1997.

In recent years the Hungarian labour market has been performing well. By the first quarter of 2001, the ILO unemployment rate had fallen to 5,6 per cent which is the lowest figure for the last 8 years and is much less than EU average (7,8 per cent). Employment started to increase after 1997 for the first time in the decade of the transition to a market economy. The decline of unemployment was remarkable in the most prosperous regions where not only full employment has been reached but scarcity of labour has appeared in certain areas. Some western Hungarian urban areas had less than three percent unemployment rates and the figure for the capital was less than 2,5 percent.

Some other labour market indicators, however, reveal a far less impressive picture. The Hungarian employment ratio is under the EU average and the employment ratio of the male population in the optimum working age (between 35-45 years) is the lowest in Europe. Despite governments efforts the participation ratio has been declining since the late 90's. In the underdeveloped regions high inactivity ratios are combined with high unemployment, a high proportion of long-term unemployment, high dependency ratios and a serious accumulation of social backwardness. Regional labour market differences have been continuously increasing.

Furthermore, there are some unsettling new tendencies in the most recent indicators of the labour market. At the end of 2001 the employment ratio started to decrease while the inactivity ratio once again started to grow. Regional indicators show the accelerated lagging behind of the economic and labour market performance of the most backward regions.

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* Findings and conclusions of the paper are based on a number of empirical studies that were carried out by János Köllő, Gábor Kertesi and Károly Fazekas in the framework of "Regional Labour Market Differences during Transition" - OTKA T-0261112" research program in the Institute of Economics in Budapest.

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This paper is an attempt to assess how and why all this happened, what kind of tendencies can be expected in the near future and what should be done to improve the labour market conditions of the Hungarian economy. We would like to add to the description of the post-transitional landscape of the Hungarian labour market some interpretation and explanation of the processes. The first chapter is a summary of the labour market developments over the last 10 years. The second chapter deals with recent phenomena, short term expectations and policy options. Both chapters include analyses on the causes and consequences of regional labour market disparities during and after transition. This emphasis reflects the author's conviction that regional factors have been playing a crucial role in labour market developments.

2. The Hungarian labour market in the 90's

2.1. Employment, unemployment, inactivity

Labour and productivity

Transition towards a market economy encouraged radical adjustment on the labour market: large scale reallocation of labour took place between sectors and as a result a remarkable improvement of labour productivity could be observed. The rapid decline of the share of the labour force in agriculture and the rise in the service sector, the substantial reallocation of labour in manufacturing in favour of the newly established private and foreign owned firms, the sharp increase in the return to skills are the main factors of ongoing restructuring. Between 1992 – 1997 real productivity more than doubled, mainly due to the outstanding performance of foreign owned enterprises and the increasing proportion of foreign firms in employment.[1] In the year 2000 labour productivity observed in foreign firms in the non-financial business sector was 2.6 times higher than in comparable Hungarian companies while wage costs were 1.9 times higher. Differences in labour productivity between foreign and domestically-owned firms vary across industries, with the differential being largest in the machine, chemical, transport and telecommunication industries (3-5 times). See Table 1.

[1] For a detailed description of the Hungarian labour market see: Laky (2000, 2001). The labour market impact of FDI firms has been discussed by Fóti (1995), Hamar (1999), Fazekas (2000) and Köllő - Kertesi (2002).

Table 1.

Wage and productivity indicators of the Hungarian firms by branches and by ownership (2000)

Branches	Gross Wages / employees			Sales / employees			Value added / employees		
	Foreign Firms 1000 Ft	Domestic Firms 1000 Ft	F/D %	Foreign Firms 1000 Ft	Domestic Firms 1000 Ft	F/D %	Foreign Firms 1000 Ft	Domestic Firms 1000 Ft	F/D %
Agriculture, forestry and fishing	992	800	**124**	13331	6370	**209**	3871	1515	**255**
Mining and quarrying	1611	1601	**101**	13673	9329	**147**	6203	4167	**149**
Food production	1673	835	**200**	22512	10573	**213**	6211	1883	**330**
Textile industry	844	550	**154**	5492	2557	**215**	1911	1004	**190**
Wood production	1663	801	**208**	21253	8243	**258**	6381	21480	**257**
Chemical industry	2009	981	**205**	27339	8851	**309**	7494	2526	**297**
Machinery	1364	1088	**125**	26804	7836	**342**	6014	2533	**237**
Other manufacturing	1139	602	**189**	9994	5527	**181**	2664	1377	**193**
Electricity	2025	1618	**125**	33328	17456	**191**	8480	5043	**168**
Construction	1104	860	**128**	13836	10221	**135**	3788	2275	**166**
Hotels and restaurants	1099	592	**186**	6428	4074	**158**	3798	1854	**205**
Commerce	1809	687	**263**	53522	21156	**253**	7630	2553	**299**
Transport and communication	2740	1202	**228**	32449	6570	**494**	16043	2828	**567**
Real estate	2190	930	**236**	19489	9156	**213**	10147	3677	**276**
Education	1681	1020	**165**	9067	5974	**152**	4411	3302	**134**
Health services	1457	632	**230**	10494	3373	**311**	4885	2100	**233**
Other services	1449	848	**171**	18844	8105	**233**	11875	4763	**249**
Total	1647	888	**185**	27038	10494	**258**	6855	2604	**263**

Source: CSO-IE FDI Data Base.

Note: Foreign firms: competitive sector firms with foreign ownership above 10 per cent of equity. Domestic firms: competitive sector firms with foreign ownership less than 10 per cent of equity. Firms in financial service sector are excluded.

With respect to *size*, large firms (250 and more employees) account for only 0.1 per cent of the total number of firms in the business sector, but approximately 31 per cent of industrial employment, 56 per cent of GDP and 75 per cent of exports.[2] The most dynamic part of the economy consists of some 100 subsidiaries of multinational corporations located in their own free-trade zones - these firms accounted for over 60 per cent of GDP growth over the period 1994-2000 while producing a growing trade surplus. The efficiency and profitability of Hungarian firms are positively correlated with their size. The proportion of foreign equity is also correlated with size, ranging from 28-29 per cent in micro-enterprises (up to 9 employees) and small companies (10-49 employees), to 35 per cent in mid-sized firms (50-249 employees) and 44 per cent in large firms.

Until the mid-1990s, improving productivity was due mainly to cuts in employment resulting from privatisation and restructuring while output growth remained subdued. In the second

[2] See Ministry of Economic Affairs (2001).

half of the 1990s, the process was characterised by rapid output growth and increasing employment. Productivity growth averaged 3.5 per cent over the period 1993-2001.

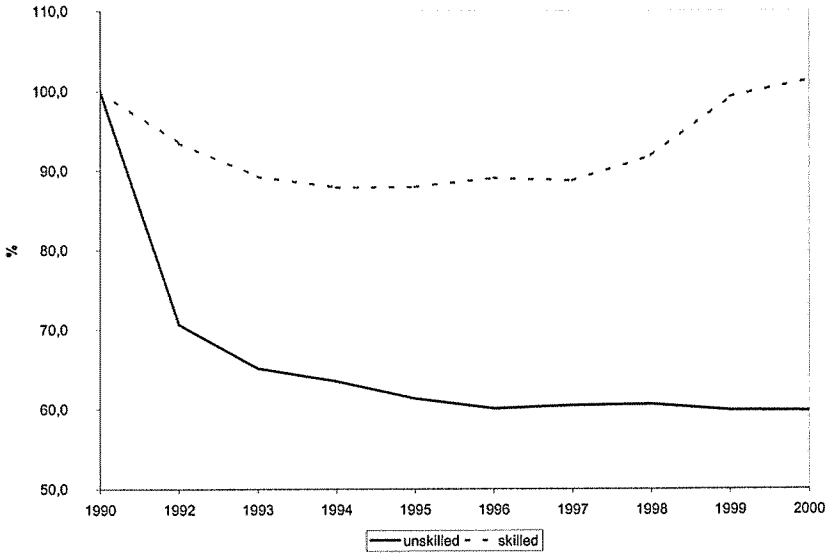
Employment – sharp decline during transitional crises and modest recovery afterwards

In 1989-91, during the years of "transition crises" the Hungarian economy lost around 1.1 million jobs, i.e. 21,4 per cent of total employment. Decreasing employment was the inevitable consequence of large scale job destruction and the slow rate of job creation in the first phase of transition. Empirical studies (Bilsen and Konings 1996, Nemes-Nagy 2000) found that job creation and job destruction had been disproportionate in the sense that the former was concentrated in the new private sector, while the latter in the "traditional" sector. The two opposite forces of job creation and destruction became more or less balanced by the middle of the previous decade. After 1997 employment started to increase: approximately 200.000 jobs were created, a 5 per cent increase between 1997-2000.[3]

Figure 1.

Changes of employment by the skill level of the workers 1990-2001

(1990 = 100%)



Source: CSO-LFS.
Note: Skilled stands for workers with secondary or higher educational background
See data in Table A1 in the Annex.

Figure 1 shows that job destruction hit the labour force unevenly. It was the unskilled jobs that suffered the most: 40 percent of this type of job disappeared between 1990-95. Skilled

[3] Table A2 in the Annex shows the time series of labour market indicators between 1989 – 2001.

workers had to face an 11 per cent contraction in the same period. After the first years of general decline the data shows a divergent path in 1995 – 2000. Skilled jobs increased by a similar number as they had been destroyed during the first phase of transition while the number of unskilled jobs slightly diminished.

Unemployment – fast upswing followed by continuous downturn

Following a sharp upswing in 1990-1993 the unemployment rate has been falling. Parallel to decreasing unemployment, however, there has been a significant rise in the stock of long-term unemployed. People with a poor educational background, lack of vocational qualifications and those living in depressed regions have a much higher than average probability of becoming unemployed.

There are four main sources of unemployment statistics in Hungary showing substantial differences in the number and the rates of the unemployed population. Most discrepancies are a result of differences in definitions and the methodology of measurements.

a, The Labour Force Survey and the ILO definition of unemployment

According to the ILO definition unemployed are those persons who are not employed but are looking for work actively during the previous four weeks, and are ready to be hired within two weeks. Those who do paid work – even those active in the informal economy – are counted as employed by the survey. Those who neither work nor actively seek jobs are classified as economically inactive. This definition of unemployment excludes discouraged workers, i.e. the non-employed working age persons who no longer look for jobs actively. According to the CSO estimation there were 100.000 discouraged workers, (2,5 per cent of the labour force) in Hungary in 2001. According to the latest survey carried out in March 2002 there were 235.000 ILO unemployed which figure corresponds to a 5,8 per cent unemployment rate.

b, Registered unemployment

The registered unemployed are those persons who have registered at local labour offices to claim benefits and/or other assistance. The number of registered unemployed is published by the National Employment Service every month. This measurement is strongly influenced by eligibility criteria of unemployment benefits, disability benefits, social benefits and participation in active labour market programs. In March 2002 there were 368.197 registered unemployed in Hungary. The registered unemployment rate was 8,8 per cent. Let me compare this with the ILO statistics. It is apparent that more than half of those registered by labour offices (e.g. those employed in the informal economy) do not fit into the ILO definition of unemployment.

c, Effective labour reserves estimated by the Hungarian National Bank

Measures based on the UE register or LFS-ILO definition could not make a clear distinction between those unemployed who are employable during the cyclical upswings of the economy and those who are excluded from the effective labour pool because of their obsolete skills and the disadvantageous location of their residence. When estimating the effective labour reserves the Central Bank focuses only on the cyclical component of unemployment. Not surprisingly this is the lowest figure among the three indicators: it was 2,5 per cent in the third quarter of 2001.

d, Census based data on economic activity

Data of the 1990 and 2001 Census on employment and economic activity give us an excellent tool to analyse changes of regional distribution of employment and unemployment during transition. Unfortunately regional data of the last census will be available only at the end of this year. The unemployment rate measured by the Census in 2001 was 10,2 per cent, substantially higher than those measured by the CSO-LFS. Census based unemployment data are much more based on the subjective judgement of the respondents than the ILO unemployment rate which is measured by the strict methodology of the LFS. (Fóti and Lakatos 2002).

In 2000 the Hungarian Government ordered the National Employment Service not to publish registered unemployment rates to "avoid confusion" over the different figures of unemployment. (Table 2) Since then only the "official" ILO unemployment rate has been used in official publications and in the media. The problem with this is that the ILO definition underestimates the extent of latent labour reserves and hides the fact that Hungary has one of the lowest participation rates among OECD countries. If the participation rate in Hungary were in the neighbourhood of the OECD average, the total labour force would increase by 16 per cent and the unemployment rate would jump to 21 percent assuming a constant level of employment (OECD 2002).

Table 2.

Time path of the LFS and Registered Unemployment (1990 – 2001)

Year	Registered Unemployed		LFS Unemployed	
	in thousands	rate in %	in thousands	rate in %
1990	477,4	–	–	–
1991	227,3	4,1	–	–
1992	557,0	10,3	444,2	9,8
1993	671,8	12,9	518,9	11,9
1994	568,4	11,3	451,2	10,7
1995	507,7	10,6	416,5	10,2
1996	500,6	11,0	400,1	9,9
1997	470,1	10,5	348,8	8,7
1998	423,1	9,5	313,0	7,8
1999	409,5	9,7	284,7	7,0
2000	390,5	9,3	262,5	6,4
2001	364,1	8,6	253,3	5,8

Note: The denominator of the unemployment rate is the economically active population on 1st January of the previous year.
Source: Registered unemployed: NLC ; ILO unemployed: CSO LFS.

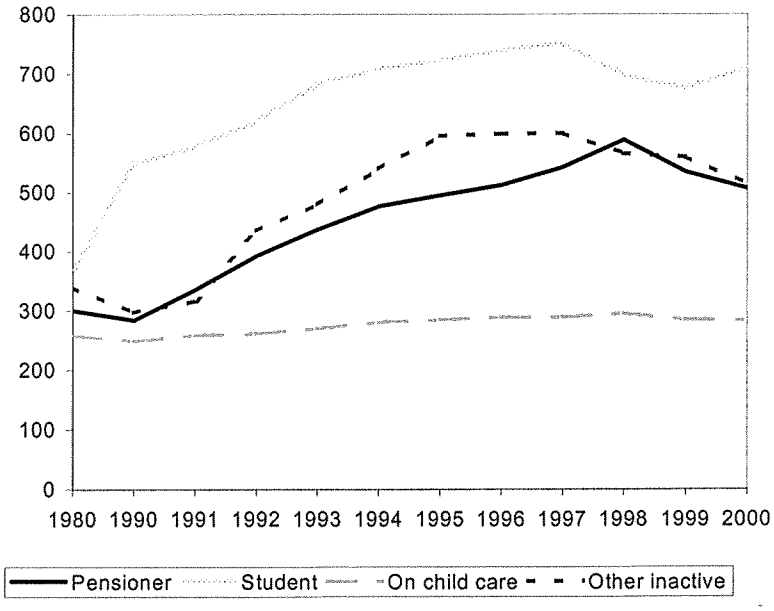
Inactivity – continuous increase of hidden labour reserves

Table 3 shows a steady increase of economically inactive population in 1990-1997. Large scale introduction of early retirement and child care benefit schemes and fast increasing schooling enrolment rates are the main explanatory factors of why Hungary has lower unemployment rates than the EU average. Nevertheless, the number of "other inactive

population", i.e. those who are out of the labour market for unknown reasons has doubled in this period.

Figure 2.

Composition of working age inactive population (1996 – 2000)



Source: CSO-LFS.

Köllő (2001) argues that in the case of Hungary the LFS largely overestimates the rate of male inactivity and underestimates their unemployment, especially in the period of economic recovery when there is no strict dividing line between unemployment and non participation. Mickelwright's and Nagy's (1999) empirical analysis, based on LFS data from 1997-98, shows that non-employed men who were actively looking for work opportunities (the "unemployed") and those who refrained from searching (the "inactives") had equal probabilities of being hired.

Employment capacity of the informal economy

Several empirical studies have been made to assess the impact of the second economy. Based on the CSO's institutional earning statistics and the Labour Force Survey, Kutas (2000) estimated an existence of 300.000 informal jobs, i.e. 8 per cent of those employed in the first economy. This group may include those who were counted as unemployed in the LFS but got some income from the black economy. Their number is between 0,7–1 million (12-13 per cent of the working age population) according to the survey.

2.2 Wages and wage costs

Time path of real wage and wage costs increases

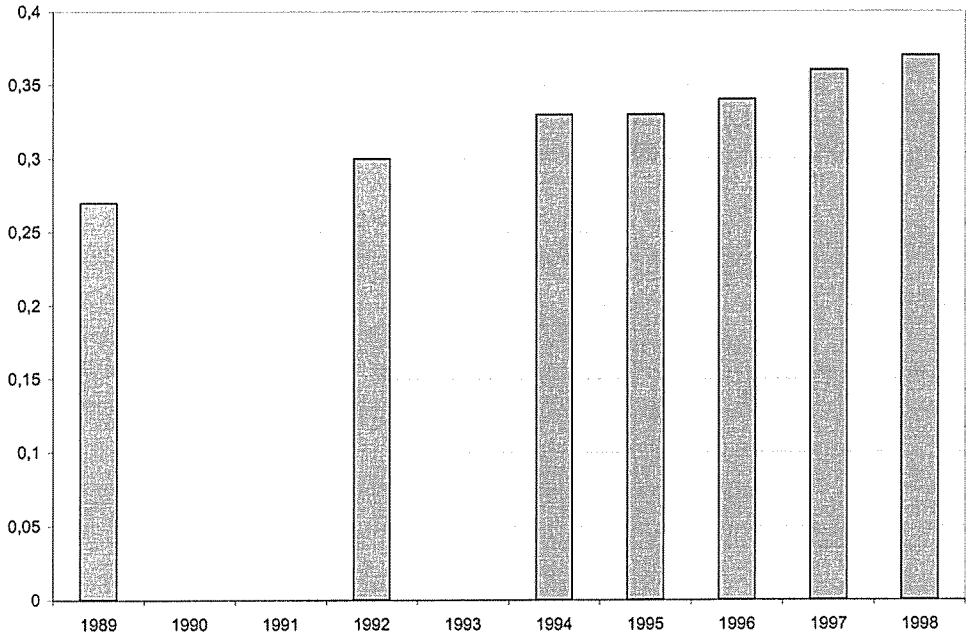
Gross real wage fell by 13,5 per cent in the first three years of transition and after a pre-election real wage increase in 1994 it fell by another 17 per cent. A recovery began in 1997 and the period between 1997 and 2000 saw a 16,7 per cent increase in real wages. Thus, the net effect is a 6,5 per cent increase for the whole period. It was a unique feature of "transition economics" that while the net real incomes of employees had been decreasing, the labour costs for employers had become more expensive. According to the calculations of Godfrey (1994) the dollar value of the unit labour costs in the Hungarian industry increased by 26 per cent in 1989-92. This tendency has been reversed during the second half of the 1990s.

Increasing wage differences

Recent empirical analyses revealed substantial changes in wage differences during transition. Returns to education substantially increased over recent years. (Figure 3 and Table 3) Kertesi and Köllő (2002) analysed the evolution of relative wages using individual wage data and the contribution of skills to productivity using firm level information for the period 1986-99. Their main conclusion was that skill obsolescence was an important feature of post-communist transition. Empirical results suggested a general rise in the returns of education between 1989-92. According to the authors this was a natural consequence of the collapse of demand for unskilled labour during transitional shock when technological change was minimal and the forces of the market economy just started to operate. In the second phase of transition, when the institutional framework of the market economy had been completed and modern technologies were implemented on a massive scale - mostly by FDI enterprises - the general appreciation of education stopped but the returns on experience continued to decline. Young and educated workers are paid higher wages and their skills are expected to yield higher productivity returns, especially in the modern environment offered by foreign owned companies. By contrast, neither productivity nor relative wages grew for older cohorts of educated workers after 1992.

Figure 3.

Earning inequalities in the 90's (Gini coefficients)



Source: NLC Wage Survey.

Table 3.

Earnings by educational level

Highest educational level	**1995**	**1997**	**1999**	**2000**
Elementary school = 100				
Elementary school	100	100	100	100
Vocational school	116	121	124	121
Vocational secondary school	116	121	124	121
Grammar school	143	149	157	152
Technical secondary school	185	203	210	201
High school	200	207	219	225
University	291	331	356	375
Total	146	152	161	161

Source: NLC Wage Survey.

2.3 Regional labour market differences

Regions and local labour markets

The transition from central planning to a market economy was associated with the dramatic increase of regional disparities in CEE countries. The widening gap between depressed and prosperous regions is characterised by considerable regional disparities in the allocation of unemployment, job opportunities and wages. In the international context it is not unusual that regional labour market disparities within a country are often larger than those between countries. Comparative analyses of regional labour market differences are mostly taken at macro or meso level of regions.[4] (EC 2000, Boeri and Scarpetta 1996, Dorenbos 1999, OECD 1995) In the case of Hungary the CSO publishes macro regional level time series of the LFS. These data show that the decline in economic performance and employment has been much more severe in disadvantaged rural regions of the Northeast and Southwest than in the more urbanised Central and Western regions. At present the unemployment rate is below 5 % in the West-Transdanubian region and in the Central regions while it reaches 11-12 % in the North-Hungarian and North-eastern region.[5]. Nevertheless regional unemployment rate differences at macro-region level are not particularly large and do not show a tendency to increase during transition. The problem is that in the case of Hungary macro or meso region level analyses of labour market indicators give a distorted picture. The size of local labour markets makes them fit more into the category of "micro regions".[6]

Table 4.

Registered unemployed/working age population ratio by four levels of regions (2002. March)

Regional levels	Number of regional units	Mean	Minimum	Maximum	Range	Std. Deviation	Variance
Settlements	3135	5,46	0,46	53,33	52,87	4,29	18,41
Micro regions	150	5,46	1,40	19,63	18,23	3,15	15,38
Meso regions	20	5,46	1,67	10,14	8,47	1,98	6,30
Macro regions	7	5,46	2,00	9,53	7,53	2,18	7,40

Source: NLC Unemployment Register.

[4] Macro, meso and micro level regions refer to NUTS2, NUTS3 and NUTS4 levels in EUROSTAT nomenclature.

[5] For a detailed county level analyses of regional unemployment rate differences see: Günther (1998), Dorenbois (1999).

[6] There are 7 statistical-planning regions (NUTS-2 units), 19 counties and the capital, Budapest (NUTS-3 level units), 150 statistical micro regions (NUTS-4 level units) and 3100 settlements, local authorities in Hungary. The average size of micro regions is 620,2 km^2, the average number of local population is 77279 and the average density of population is 108,5 cap./km^2 (Faluvégi 2000). Given the relatively high cost of public transport the effective labour market in backward regions is estimated to be confined to a radius of 16 km or less. (OECD 2002).

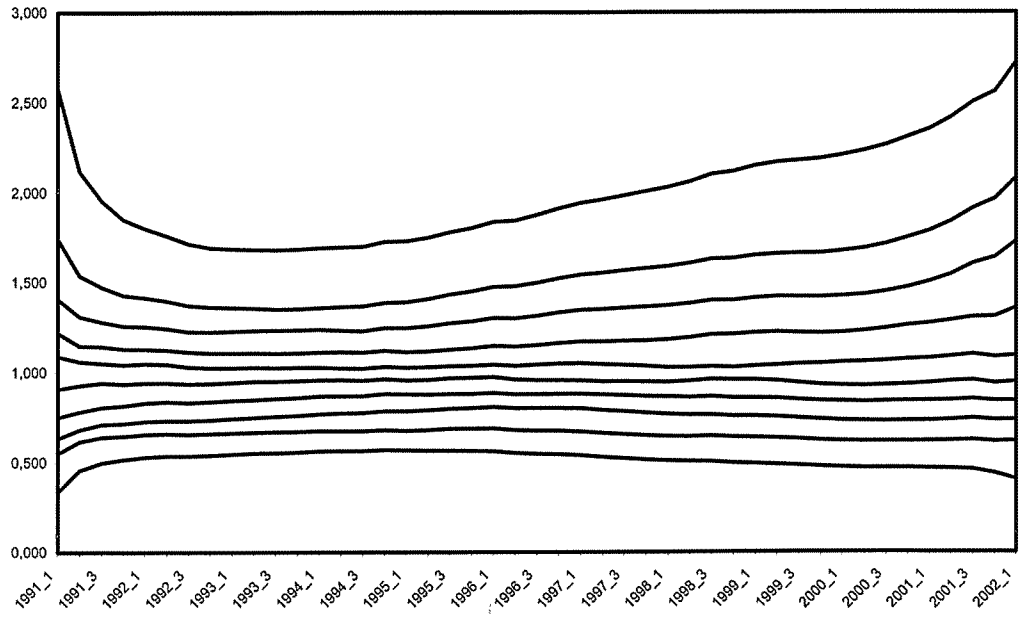
More than 83 per cent of the variance of settlement level unemployment ratios is accounted for between micro-region differentials. Only 34 per cent is accounted for between-county and 40 per cent for between-region differentials. (Table 4) Fazekas and Köllő (1998) found similar proportions when they examined regional wage differences. This is why we chose to focus on micro regional labour market differences. Maps A1-A4 in the Annex show macro, meso, micro and settlement level regional unemployment differences in 2000.

Post transitional characteristics of the regional labour market

Figure 4 shows the movement of average unemployment rates of the top and the bottom decile and that of the median. Unemployment rates increased until March 1993 and then decreased. In March 1993 the average ratio of the top decile was 23,8 per cent and the average rate of the bottom decile was 7.1 per cent. In March 2002 the respective figures were 2,8 and 17,8 per cent. Besides the wide range of dispersion, regional data revealed dangerous long term tendencies. Regional differences have been continuously growing, thus disadvantages have been accumulated during the years of transition. Expressing mean unemployment rates of each deciles in the percentage of the median at each period gives us a picture of the time path of unemployment rate differential. This measure is, by definition, independent from actual levels of unemployment. (Figure 4)

Figure 4.

Time path of relative unemployment rate differentials (1991 – 2002)



Source: NLC Data base.

We can see that extremely high differences appeared during the turbulent period of the collapse of the old economy. In the second phase of transition, after a short period of stagnation, regional differences started to increase up to the latest figures. This increase has been generated by the continuously deteriorating position of high unemployment regions. Increasing regional disparities are accompanied by high stability of the position of regions. Those which recovered faster from the transitional shock turned out to be winners of the post transitional period as well.

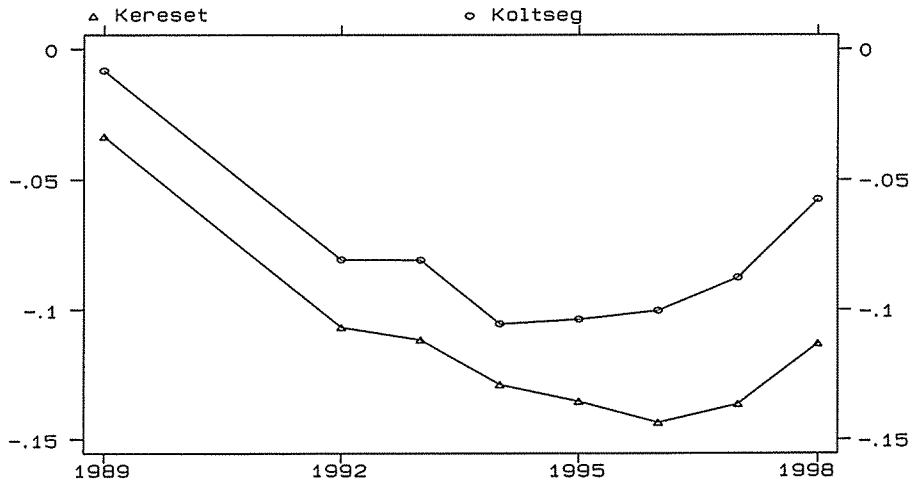
The birth of the wage curve

In market economies regional unemployment rate differences strongly correlate with regional wage differences. The initial pre-transition level of earning dispersion of the CEE countries was rather low by international standards. Later on, the increase in wage dispersion moved the post communist countries into the group of medium/high-inequality countries. (Deichman and Henderson 2001). In Hungary Kertesi and Köllő (1999) estimated the relation between regional relative wages and registered unemployment. They analysed factors affecting regional relative wage costs, such as changes in regional productivity levels and differences in the intensity of search of job opportunities by the unemployed. Regional wage adjustment was analysed through repeated cross-section regressions using large data sets comprising both individual and firm level data. The Hungarian findings suggest that by 1996 the elasticity of individual earnings with respect to local registered unemployment reached a value of minus 10 percent which is a typical estimate for mature market economies.[7] The unemployment elasticity of wages increased faster in smaller firms but after the liberalisation of wage settings in 1993 the differentials by firm size gradually disappeared.

[7] The Hungarian elasticities are slightly higher than those estimated for Poland and the Czech Republic and markedly higher than those for Romania. (Köllő and Vincze 2000) In the case of Poland Duffy and Walsh, similarly to Blanchflower and Oswald (1994) found that the estimated unemployment elasticity of pay is approximately –0,1.

Figure 5.

Time path of elasticised of wages and labour costs in micro regions, 1989 - 1998



Note: Kereset = Wages ; Költség = labour costs.
Source: Köllő 2000.

Analysing the impact of location on the cost of labour holding, registered unemployment, and other wage determinants, Kertesi and Köllő found that in the second phase of transition labour cost fell in Budapest and in central agglomeration relative to the peripheries. The same applies to large cities relative to small towns. According to the authors this phenomenon is due to the fact that relative productivity levels changed in favour of the more developed centrally located urban districts.

Determinants of regional labour market differences

Determinants of regional unemployment rate differences were analysed by a number of studies (Ábrahám and Kertesi 1998, Fazekas, K. 1996, 2000b, 2002) Unanimous results show that the differences were generated by the demand side of the labour market. While the intensity of job destruction shows an equal regional distribution, the intensity of job creation follows an uneven pattern in the first phase of transition. (Nemes-Nagy 2000) Emerging unemployment rate differences could be attributed mainly to the differences in the entrepreneurial and industrial capacity of regions at the starting point of transition. (Fazekas 1996, Ábrahám and Kertesi 1999) The effect of state run large industries on their own was negatively related to the level of unemployment. The dominance of state industry has led to higher unemployment only in those regions where this dominance was coupled with low entrepreneurial capacity. Entrepreneurial capacity refers to the extent to which infrastructure and social, human and conditions of local economic development "were ready" at the start of the transition.

Recent analyses on post-transitional characteristics of unemployment differences have shown that the explanatory power of the industrial capacity of regions has diminished, while that of the distance of regions from Budapest and the western border has increased. Post-transitional unemployment is typically high in remote agricultural regions with poor infrastructure, low educational levels, poorly developed services and trade, and with large Gypsy communities.[8] The core-periphery division has become stronger. The central agglomeration, and regions along the main east-west transport routes toward Graz and Vienna recovered faster and benefited from the massive inflow of foreign direct investment. The worst-hit regions are typically rural, located near the East-Slovakian, Romanian and Ukrainian borders.

There are important labour market differences between urban and rural settlements even within the micro-regions. Villages and smaller towns lag behind larger cities in terms of physical infrastructure and human capital endowments. Many villages are isolated from urban labour markets because of the lack of public transport and have high unemployment rate for this reason. (Ábrahám and Kertesi 1998, Fazekas 2000b, Kertesi and Köllő 2000)

2.4 How to alleviate regional labour market differences? Commuting, migration and local job creation in Hungary

Hungary's low activity rate is caused mainly by regional backwardness, thus regional factors play a key role in the employment development of Hungary. On the supply side of the labour market regional labour market differences could be alleviated: by *commuting*, by *internal migration* from high unemployment regions towards low unemployment areas and by *external migration and commuting* towards foreign countries. On the demand side of the labour market increasing job creation and reallocation of existing jobs towards high unemployment regions could be a means of mitigating regional differences.

Commuting

About a quarter of the employed were daily commuters in 1996 according to the micro census. This ratio has not changed much throughout the 90's. Enormous differences between the unemployment rates of urban and rural settlements indicate that daily commuting of the rural population to surrounding towns could be an equalising mechanism easing employment tensions. Köllő (1997) and Kertesi (2000b) estimated the impact of transport costs on the openness of local labour markets. They found that the equalisation of regional unemployment rate differences is strongly limited by the high costs of commuting and the resulting segregation of the local labour markets. Kertesi (2000b) examined commuting possibilities in the case of villages. He estimated how the costs of the availability

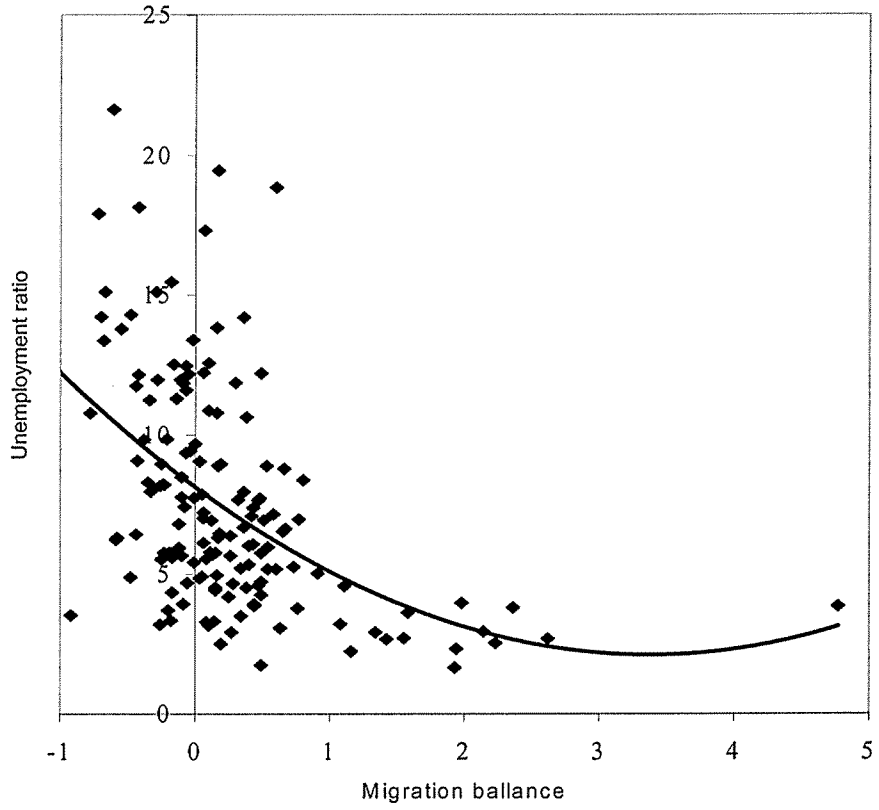
[8] Ábrahám and Kertesi (1998) and Kertesi (2000a) give detailed analyses of the changing employment patterns of the Hungarian Gypsy community during transition..

of better urban labour markets affect the probability of becoming employed by those who could not find jobs in their places of residences. He found a strong effect of schooling on increasing the probability of work by commuting, mostly in the case of the male labour force. The more educated a person is, the higher his or her chances are to find employment that requires daily commuting. It is mostly educated people who could find jobs with wage levels high enough to cover commuting cost. Education raises the chances of employment by commuting considerably: travel costs induced job finding differentials are very large for unskilled workers, whereas similar travel costs have only trivial consequences for the job finding chances of people with higher education. According to Kertesi's estimations regional and transport disadvantages create a 35-50 percent differential in job finding probabilities for people with a low education.

Internal migration

Increasing regional unemployment rate differences and growing dispersion in the availability of job opportunities have positive effects on net migration (see figure 6.). Thus, in theory, labour mobility can serve as an important means for regional adjustment to transitional shock. On the basis of large and increasing unemployment rate disparities accompanied by substantial regional wage differentials across regions one could have expected that internal migration flows would increase in Hungary as well. Yet, reality contradicted this expectation. As in other CEE countries internal migration flows have remained at a very low level (Burda and Profit 1996, Fidrmuc 2001,) Using aggregate in and out migration data by settlements, Kertesi (2000b) has proved that migration behaviour reacts to economic incentives. Regions with high unemployment rates have suffered substantial migration losses while those with a low level of unemployment had migration gains. The magnitude of this effect, however, is quite modest and likely to remain so in the near future. According to Kertesi's calculation even a migration of considerably higher than the existing figures would not lead to a sufficient narrowing of the regional unemployment rate differentials in the near future. Nevertheless there are several sets of factors (tight housing market, scarcity of rented flats, serious regional mismatch of skill) that explain the low level of internal migration in Hungary and in other CEE countries.

Figure 6.
Net Migration by unemployment rates in micro regions (2000)



External migration

There have been wide spread concerns that the political and economic changes, and social and ethnic tensions would lead a large scale out-migration from CEE countries towards the European Union. These concerns have not been realised (OECD 2001) to date. East - West migration flows which followed the opening of the CEE's borders were focused largely on Germany and begin to decline from the beginning of the 90's and very rapidly took on a temporary nature. East-West migration flows persist but at a much lower level than those in the early 90's. Migration flows toward CEE countries have intensified in the case of the Czech Republic, Poland and Hungary. Given the dearth of unifying migration statistics and the fundamental methodological problem of an extrapolation of the past migration patterns to expected migration behaviour it is hard to estimate the effects of EU enlargement on future migration flows. Straubhaar (2001) found that "independent from the variety of assumption and models that have been used to forecast potential East-West migration flows, the old and simple rule of thumb is strongly confirmed that East-West migration would reach 3-4 per cent of the CEE population. Brücher et al. (2001) estimates a migration of between 2 and 4 % of the population of candidate countries over a long period of time with an average net migration into them being at most 300.000 persons per annum in the first decade. Havlik (2001)

estimates that the number of residents from CEE countries will increase from 1,3 per cent of the population to 5,5 per cent in Austria in 2030.

As far as Hungary is concerned we do not think that external migration will be a part of a solution that could ease the regional differences in the labour market. Labour flows from Hungary's backward regions to EU countries will be small even after the accession as has been made clear by empirical studies. Sik (1997) Hablicsek and Tóth (2001) found that the migration potential of the Hungarians is low compared to that in the other East European countries and did not change much over the 90's. Hungary's labour market has been, and will be, more affected by inward migration from neighbouring countries. According to the recent migration survey in Romania, there is a substantial migration potential of neighbouring countries towards Hungary, mostly among ethnic Hungarians and Roma minorities. (Sik 1997, 2002)

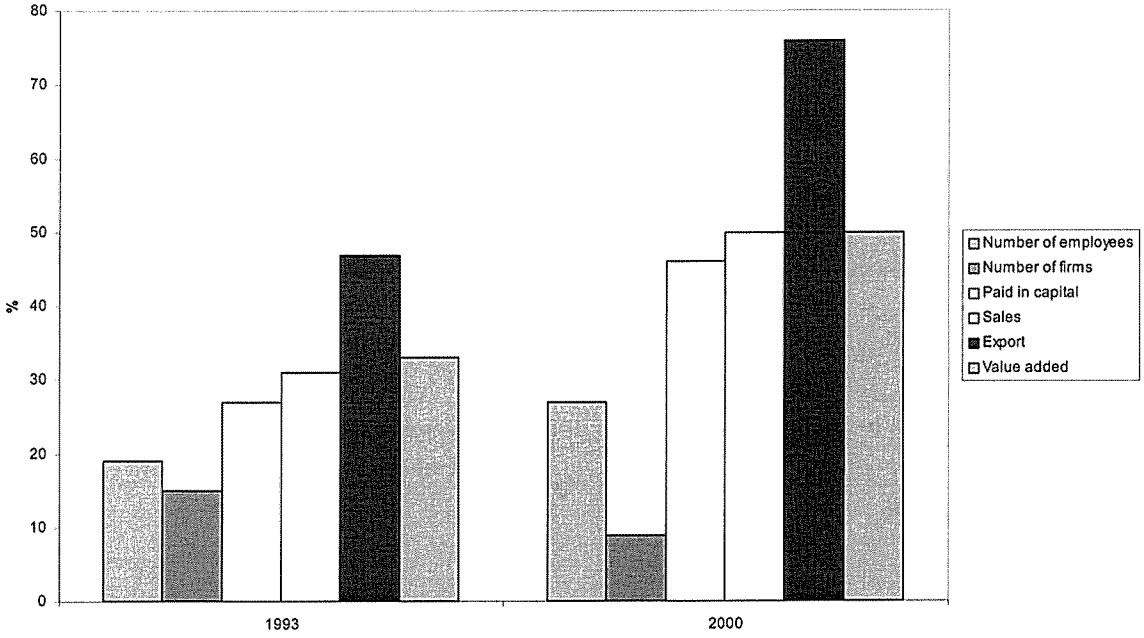
The low migration potential of the Hungarian workforce can be explained by a number of factors. Wage differences are expected to decrease between Hungary and EU countries (Ferenczy 2001), there are no large Hungarian minorities in EU countries, there is a strong skill mismatch between the potentially migrant population and the demands of the EU labour market. Several studies on the experience of the German unification and the earlier EU accessions also show that the migration potential of accession regions and countries was heavily overestimated. In the common labour market of the EU labour has been extremely immobile internationally. Explaining this immobility Straubhaar (2001) stressed that immobility has certain positive economic values such as local know-how which can not be transferred.

Local job creation – The effect s of FDI inflows on the local labour market

The location preferences of investors have dramatically changed since the pre-transition era. Available data on firm creation, small business start ups, physical capital formation, and foreign direct investments suggest increasing rather than decreasing regional differentials in the density of firms and capital endowments. Despite considerable regional wage cost differences investors have not been motivated to move to the depressed regions. Several studies confirmed that FDI was one of the key factors of the economic success of Hungary in the last years. (Nemes-Nagy 2000, 2001) Foreign capital can decisively promote the economic restructuring of local economies providing capital, modern technologies and work organisation practices. Foreign capital is also a means for integration into the global economy and could provide important spillovers of know how towards domestic firms in the region. As far as the labour market impact of FDI is concerned, in the case of Hungary foreign firms employment was the expanding part of the corporate segment of the labour market while domestic firms employment continuously decreased over the 90's. Analyses on the impact of FDI inflows on local labour markets share the view that regions with a higher ratio of foreign firms employment perform more successfully.

Figure 7.

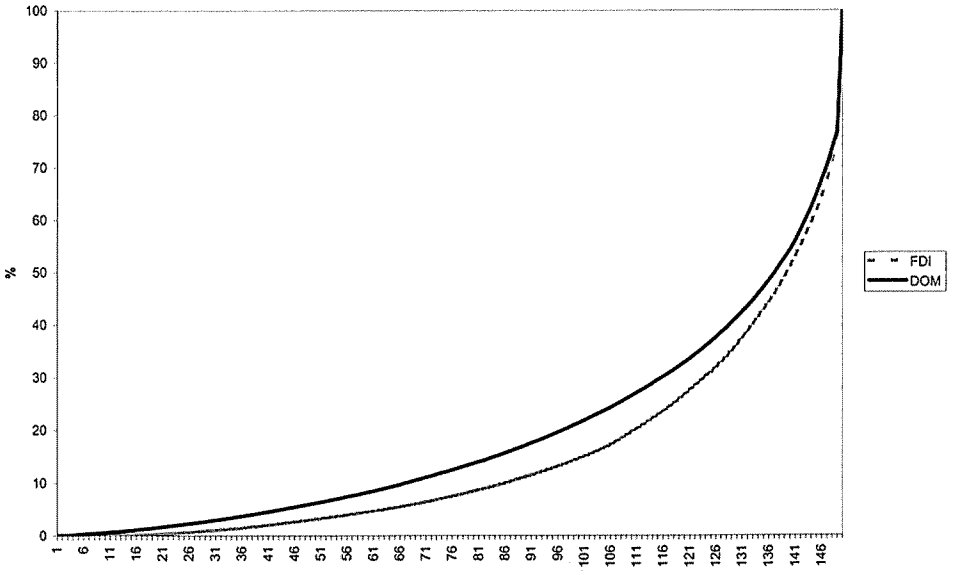
Share of the foreign firms in the corporate sector



Source: CSO FDI data base
Note: Firms in financial services are excluded.

Figure 8.

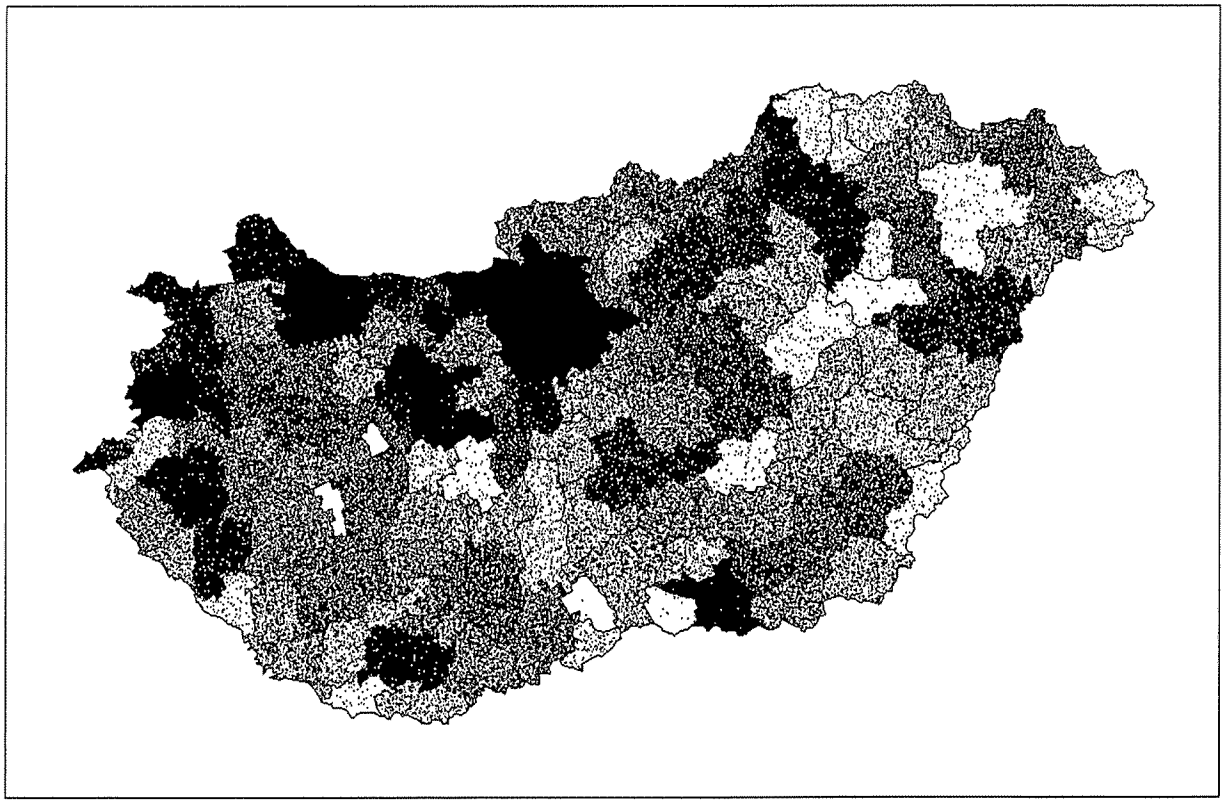
Regional concentration of domestic and foreign firms employment in micro regions, 2000 (Lorenz curves)



Source: CSO FDI data base.

The micro regional distribution of the number of firms, jobs and the volume of the capital shows an extremely high regional concentration. From this point of view there are no substantial differences between foreign and domestic firms. (Figure 8) The question is: what are the most important factors of allocation preferences of foreign firms in Hungary, and how have these preferences changed over recent years. Fazekas (2000a) showed that micro regions with a more educated labour force and a closer location to the western trade portals attracted more foreign capital and had higher foreign firms employment than other regions. Urban centres with a high concentration of skilled labour and proximity to the western border are in the best position. Hungary's only one large agglomeration - Budapest and its conurbation - together with a large skilled labour pool can offer a wide selection of externalities such as direct links to the political and financial decision makers, rich cultural life and spillover effects due to high firm density and co-operation networks with a number of universities and scientific institutions. (Map 1.)

Map 1.
Density of foreign firms employment in Hungary 2000



Source: CSO FDI Data Base.

Note: Dots represents foreign owned firms in the micro regions.

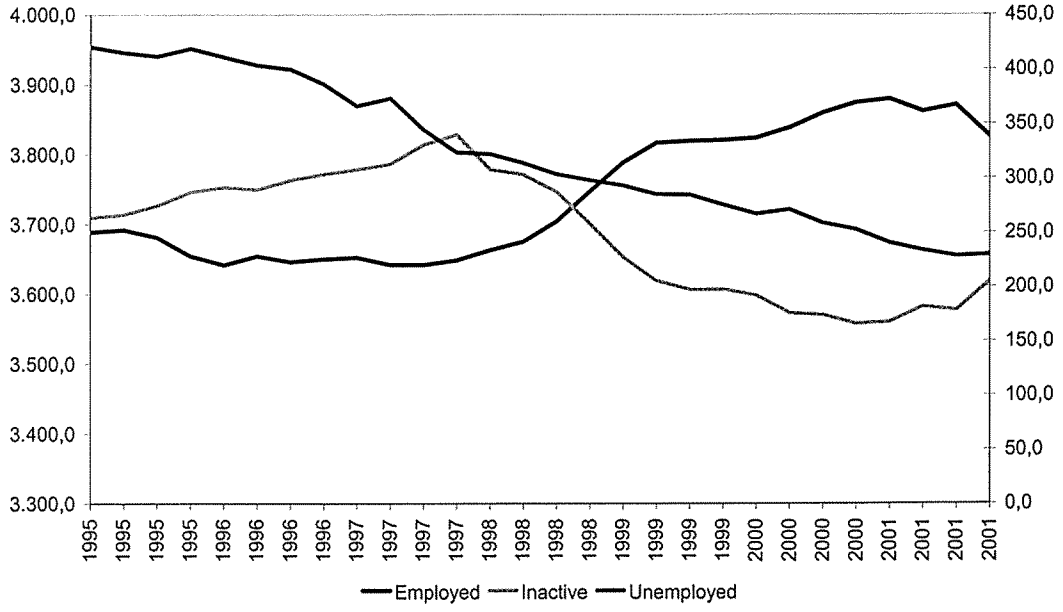
The impact of FDI inflow on the change of unemployment rates appears to be weak. Low-unemployment regions attracted more investment over recent years but no significant correlation was found between the change of FDI employment and the change of unemployment. This may be explained by the relatively high share of take-overs as opposed to 'green-field' investment during transition, the relatively low labour intensity of foreign investments (compared to domestic enterprises) as well as by the practice of hiring from the rank of employed workers rather than from the pool of unemployment.

3. Recent development, short term expectations and employment policy options

3.1. Hardening labour market conditions

After four years of recovery some disturbing tendency emerged on the labour market in 2001. Employment started to fluctuate and slightly decrease. (Figure 9) In December, dependent employment was down by 0,4 per cent compared with the level observed a year ago, while private sector employment had fallen by almost 1 percent. In the Labour Force Survey the economically active population shrank by 83.000 persons (2 per cent) between the 4th quarter of 2000 and the 1st quarter of 2002. Unemployment started to grow again, mostly in the hard hit regions of the country. The intensity of labour measured by the "average hours worked by manual workers in manufacturing" declined in the course of 2001, indicating some accumulation of hoarded labour within firms.

Figure 9.
Seasonally adjusted labour market indicators 1995-2001



Source: CSO Labour Force Survey.

The first signs of the break of last years' improving labour market trends could have been interpreted as an inevitable concomitant of certain demographic trends and existing regulations on employee retirement.[9] The latest data, however, suggest that the deterioration of labour market conditions can be better explained by factors on the demand side.

Possible causes of the latest downturn

Recent labour market conditions have been formed by the adjustment of the economy to four new developments in 2001-2002. The recent Quarterly Inflation Report of the Hungarian National Bank (HNB 2002) categorised these new developments as: (1) *Real economic factors* such as the cyclical slowdown in external markets and the strong real wage growth (2) *nominal effects* such as the appreciation of the Hungarian currency (HUF) following the move to widen the intervention band and rapid disinflation.

As far as the nominal factors are concerned, data of the second half of 2001 show a delayed adjustment of wages to the appreciation of HUF and rapid disinflation. According to the OECD estimations the real exchange rate based on unit labour costs has appreciated by approximately 10 percent in 2001. (OECD 2002) This raised real economic costs and could have contributed to the fall of employment in recent months. The HNB Quarterly Inflation Report forecasts a slight delay in wage adjustment in 2002. This may have negative effects on private sector employment with a further increase in unemployment and inactivity.

It is not easy to estimate the short term effects of *real economic factors*. According to the HNB calculation a higher than average employment decrease was manifested in the private sector and a much higher than average one in the manufacturing industry. At the same time employment in private services has increased. These data reflect the fact that export oriented firms and manufacturers are sensible to the cyclical downturn on external markets, while employment in private services is more dependent on the expansion of domestic demand. In 2001, average gross wages in the competitive sector increased by 16,3 per cent (6,5 per cent in real terms) while the estimated figure for 2002 was 12-15 (2-5 percent in real terms). This dynamics of real wage growth is the highest in the recent economic history of the country and resulted mainly from three factors: (a) the minimum wage increase in 2001 and 2002, (b) high inflationary expectations which led to high nominal wage settlements, and (c) the fact that the actual wage increase was significantly higher than the rates negotiated and recommended by the national labour council. (Table 5)

[9] According to a new legal regulation those in the age groups affected by the increase in the retirement age may choose to retire biannually. This may raise the number of economically inactive population in 2001 and 2003.

Table 5.

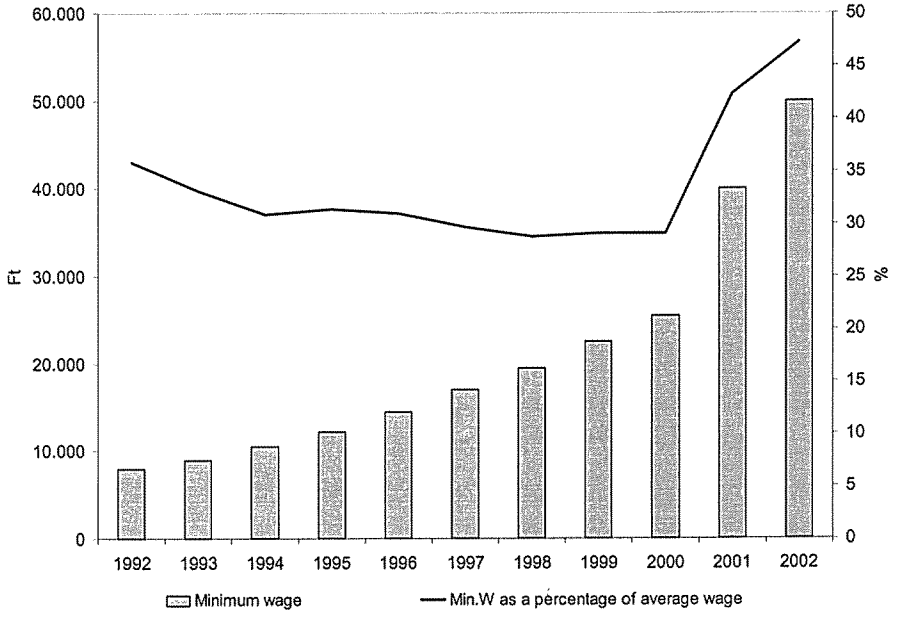
Recommended and effective wage increases[1]

	Centrally recommended wage increase for enterprises[2]			Actual wage increase in the enterprise sector	Excess of actual wage increase over the central bargain		
	Minimum	Average	Maximum		Minimum	Average	Maximum
1992	13	23	28	26.6		3.3	
1993	10-13	18	25	25.1		7.1	
1994	13-15	17-19	21-23	23.4		5.4	
1995	n.a.[3]			19.7		n.a.	
1996	13	19.5	24	23.2		3.7	
1997	14	17.5	22	21.8		4.3	
1998	13.5	-	16	18.5	5.0	-	2.5
1999	12	-	15	14.8	2.8	-	-0.2
2000	8.5	-	11	14.2	5.7	-	3.2
2001	9.75	-	12.5	16.3	6.6	-	3.8

[1] From 1998 agreements concluded only on the recommended minimum and maximum rate of the average wage increase. In 1999 and 2000 the agreement was bipartite between the employers and the employees side of the Council.
[2] Guideline of the Interest Reconciliation Council (IRC) before 2000 and the National Labour Council afterwards.
[3] No agreement was reached by the IRC in 1995.
Source: Hungarian Ministry of Economy.

Figure 10.

Minimum wage increases



Source: Fazekas (2001).
Note: Figures for 2002 are based on estimations.

Effects of the minimum wage increase was interpreted by government officials and outside experts in a completely different way. The Hungarian government raised the amount of the whole-economy minimum wages by 57 per cent in 2001 and by another 25 per cent in 2002. The minimum wage/average wage ratio was 29,1 per cent in 2000 and 42,3 per cent in 2001. The estimated figure for 2002 is 47,2 per cent. (Figure 10) Though government officials continuously denied any negative effects of minimum wage increase on the labour market, recent results of empirical studies (Kertesi and Köllő 2002, Köllő 2002, Berki 2001, GKI 2002) proved that the observed decrease of employment could be substantially assigned to the minimum wage increase in 2001. Moreover, the authors expect a further deterioration in this context.

The HNB Inflation Report (HNB 2002) arrived at a similar conclusion. According to the Report the minimum wage increase in 2001 "has not been coupled with a real increase in wage levels in the larger part of the economy, and thus had a smaller impact on the increase in both labour costs and the household' disposable income. ... By contrast, rising minimum wage ... may unleash inflationary pressures on the cost side through higher labour costs, and on the demand side through a higher wage bill." (HNB 2002)

Sectoral and regional effects of the minimum wage increase

The consequences of the higher minimum wages will be even more serious in certain branches of the low wage/low productivity segments of the labour market. It is very probable that companies will dismiss workers as a reaction to a substantial increase in wage costs. Some recently published studies attempted to measure the sectoral effects of the minimum wage increase on employment. In 2001 26-31 per cent of employees in the corporate sector had a wage level less than the new minimum wage, while in 2002 the same figure was 35 per cent. In certain branches (textile industry, hotel and restaurant trade, retail trade, construction, leather and footwear industry) this ratio was higher than 50 per cent in 2001 and higher than 60 per cent in 2002. According to a recent survey (GKI 2002) 35 per cent of the firms questioned indicated that their profitability was substantially worsened because of the minimum wage increase. The short term labour market forecast of the National Employment Service reported that one quarter of the firms gave up their earlier intention of staff enlargement and half of them mentioned redundancies.

Kertesi and Köllő (2002) found a link between increasing regional disparities and the minimum wage increase. According to their calculations increasing the minimum wage had different effects in different regions. This comes from the different own price elasticities of skilled and unskilled labour. Kertesi and Köllő found that following the "transformational recession" the own price elasticities of labour and capital were stabilised at levels observed in developed market economies. The higher the own wage elasticities of certain type of labour was, the more people were affected by the differentials of the old and the new

minimum wage standard, the stronger the expected demand responses were. People with low levels of education are in the worst position since the demand in this job category is the most responsive to wages. Moreover, it is this group which has been most affected by the new minimum wage standard.

Using estimated (own-wage) elasticities, Kertesi and Köllő predicted drops in labour demand in 57 regional units of the country. It came as no surprise that while some regions were affected only to a minimal degree, others, especially villages in the north eastern part of the country and in the Great Hungarian Plain were seriously hit by the employment consequences of the rise of the minimum wage. In some regions more than a 10 percent drop in employment is expected for workers with completed or uncompleted primary school education and more than a 5 percent drop for those with completed vocational schools training. The conclusion is obvious: the rise of the minimum wage does increase regional employment inequalities.

Short term expectations

Employment recovery may be hindered by a few negative shocks in the near future. The number of people employed in manufacturing will be likely to fall due to the delay in the cyclical upturn of the external business cycle. The 2002 minimum wage increase affecting more employees than it did in the previous year will have a strong negative impact on the employment of low productivity groups be it on a firm, sectoral or regional level. The National Bank forecasts employment in the private sector to stagnate in 2002 and to rise slightly in 2003.[10]

Recent calculations of the Hungarian Ministry of Economy (Kutas 2002) forecasted a substantial increase of labour supply by 300.000-370.000 in the next five years supposing that the rate of joining employment of the economically inactive population remains constant. The growth of the labour supply will be the fastest in the depressed regions, thus the deterioration of some regional local labour markets is expected. The prospects for young workers first entering the labour market is especially gloomy. This group already has a higher than average unemployment ratio.

According to the OECD (2002)'s short term outlook, wage growth will remain dynamic as a result of the minimum wage increase in 2002, the increase of wages in the public sector and the tight labour market. We do not expect a substantial decrease in wage inequality in the near future. Kertesi and Köllő (2002b) calculations show that the supply side reaction of the labour market was sensible to the increasing returns on education. A fast increase in the

[10] Based on the most recent development the latest issue of HNB Inflation Report (HNB 2002b) has changed its forecast published in March and reported 1,8 % drop of employment in manufacturing in 2002.

number of students in higher education may lead to decreasing returns on skill over the coming years.

3.2. How to change the "bad" equilibrium

As we have seen there are two main obstacles to increasing employment in Hungary: (1) the relatively high ratio of the unskilled workforce, (2) the high number of regions with an underdeveloped physical and human infrastructure. These regions could not attract foreign investments despite the relatively low wages they offered. This kind of "bad" equilibrium on the labour market has grave consequences. Unskilled labour is in the worst situation since the wages in this group are too low to cover the high cost of commuting from depressed regions towards regions with more favourable conditions.

What were the policy responses to these phenomena and what are the possible solutions? It is these questions on which the rest of this paper will focus.

Recent outcome of the "work-fare" type employment policy

Besides some minor changes in the pension and in the personal income taxation system[11], some modification of active employment policy measures,[12] and the introduction of some special measures aiming at the reduction of regional disparities,[13] it was the tightening of the unemployment support system that has been the main employment policy tool to raise the employment ratio of the working age population and the re-employment possibilities of the unemployed in the hard hit regions.[14]

1. In February of 2000, the government reduced the period of unemployment insurance benefit payments affecting a large number of persons entitled to UI benefit. Under the new regulation the minimum benefit was cut to 50 days and the maximum to nine months. The minimum is conditional on 200 days of prior employment, and the maximum requires 45 months employment record during the preceding four years. The purpose was to induce an increase in the re-employment rates by shortening the duration of the entitlement for unemployment benefits.

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[11] The Government has tightened regulations to limit the misuse of early retirement and disability pensions. In 2001 the Hungarian Government exempted pensions from the taxable income to make employment more attractive to retirees.

[12] In 2001 the amendment of the Employment Act introduced a new measure called „labour market program"(LMP). In its framework, it gives the possibility to the Employment Service to finance a set of integrated local employment development projects. The amendment has raised the flexibility to adjust employment development programs to local circumstances. For a detailed description see Frey (2001).

[13] For example: the government started to subsidise the construction of the municipality owned housing estates in 2001-2002. This can promote internal mobility towards urbanised regions.

[14] In this sense the Hungarian Government just followed the New Deal policy of the Labour government in the UK who copied the "workfare" system pioneered in the USA.

2. In May of 2000, according to the amendment of the Welfare Act, unemployment assistance (UA) for the long-term unemployed was terminated and it was replaced by "regular social assistance" (RSA) for the unemployed of economically active age. RSA is a social benefit of a smaller amount, and with a higher threshold of per capita income. As opposed to the UA, the entitlement to the RSA is not conditional on exhaustion of unemployment insurance benefits, but there is a requirement that the claimant was in contact with the public employment service and local government for one year, seeking assistance in his job search, and participated in a public works scheme for one month prior to placing his or her claim. Local governments were put in charge of administering the RSA and it was their responsibility to organise public works schemes for applicants. The main justification for the above measures was to enforce the principle of "welfare-to work". Proponents of the changes assumed that the tighter rules would encourage the long term unemployed to return to employment, increase participation in public works organised by local governments and discourage free riders i.e. those who reject services or job offers without an acceptable reason.

We do not know of any prior study on the effects of the tightening of the support system. There are, however, recent ex post analyses which evaluate the longer term effects of the stricter support system.

As far as the first modification is concerned, empirical results of Galasi and Nagy (2001) showed that the shortened period of entitlement did not lead to faster re-employment of the unemployed. Recent monitoring studies on the second change revealed that there was no clear cut evidence on the impact of the new rules on re-employment probabilities of those involved. Galasi and Nagy (2001b) found that the new rules increase the relative re-employment probabilities for certain groups (particularly among males) and reduce the negative effects of local labour market conditions (in case of a higher unemployment rate) on the probability of finding a job. On the other hand there is also evidence that the new regulations reduced the relative probabilities of re-employment for some other groups (particularly among females).

Fazekas (2001) investigated local government practices of providing income support and public works for the working age unemployed under the new regulation. He found that in the first year following the amendments, fewer people than expected were transferred into the RSA scheme. The amendments were instrumental in the exclusion of free-riders, but some people with a justified need for support were also deprived of assistance. Since there was no increase in the proportions of people who exited to employment after exhausting UI or UA benefits, most of those excluded from assistance joined the ranks of the unemployed without state support or were driven out of the labour market. The introduction of the "Regular Social Assistance" scheme and the required participation in special public works substantially increased the inequalities between settlements. A significant proportion of the local governments in regions with better conditions and in larger settlements had exceeded the

spending limits of public works in a few months, while most of the small settlements were unable to organise public works schemes and thus have lost the earmarked funds. In the large majority of small settlements, local governments cannot afford a separate branch for the management of public works. Only larger settlements can maintain or finance non-governmental organisations, educational and welfare institutions that can offer assistance to the elderly, the sick, and long-term unemployed. Important reasons behind the large-scale exclusion from the RSA were the tightening of asset and income limits for the entitlement, the practice of putting a lien on inheritable property against the assistance and the introduction of a mandatory minimum of 30 days public works as a prerequisite.

According to our view the above described steps of tightening the support system of the unemployed and enforcing the principle "welfare-to-work" in assistance failed to raise employment and failed to reduce regional unemployment rate differences because they did not attack the basic cause of the low level of employment and the high regional dispersion of unemployment.

Employment policy priorities during accession

A number of recently published documents on the Employment Policy Priorities of the Hungarian Government and on the recommendations of the European Commission's and OECD's expert groups prove that both the recent challenges of the Hungarian labour market and the measures expected from employment policy are well known to the decision makers of the Hungarian Government. The question remains, however: how to find the best way to implement these policies?

It goes without saying that during the period of prolonged accession Hungarian employment policy should be adjusted to the employment policy guidelines of the European Union. According to numerous statements of the Hungarian government this process of adjustment "is not only an external constraint but also a well-understood interest of Hungary." (Pulay 2001) It means that the Hungarian employment strategy should be based on the four pillars of the employment guidelines set out by the Council of Europe. At the same time, the Hungarian government has to decide on priorities derived from specific Hungarian conditions. The "Joint Assessment of the Employment Policy Priorities of Hungary" signed in November 2001 by representatives of the Hungarian Government and EU Commission pointed out the four most important fields of action:

- Non-employment and the impact of the previous withdrawal from the labour market;
- Large regional differences in education: educational attainment and ethnic origin; the danger of growing segmentation and exclusion;

- Relative low response of education and VET systems to changing labour market needs;

- New requirements of the changing labour market, particularly with regard to implementing the ESF.

How can these guidelines be translated into concrete action programs? The document mentioned above envisages a number of measures such as:

- Specific employment development programs should be implemented for the groups in the most disadvantageous positions (people with changed working abilities, Roma people, young people from very poor families etc.).

- Special support programs are needed to increase the flexibility of the labour market. Measures are required against all form of discrimination, in certain cases positive discrimination could be also approved to create equal chances on the labour market.

- Programs aimed at the reduction of regional backwardness on the labour market should be also introduced.

Policy options

All the measures mentioned above are important parts of a successful employment policy. However, there are three more policy areas which we consider as equally important parts of a comprehensive employment development package. These policies cover: (1) increasing wage flexibility, (2) raising spatial mobility and (3) development of human capital in depressed regions.

(1) Wages

Raising wage flexibility in the CEE countries can become a key factor in regional labour market adjustment. Köllő (1999) argues that although the predominance of decentralised wage bargaining averts some kinds of rigidities, the co-existence of free-market practices in the competitive sector and centralised wage bargaining in the public sector makes the adjustment of wages more difficult. Enhancing work-fare policies by large scale public work programs in depressed regions which isolate the long term unemployed from the labour market also hinder the adjustment of wages. It is not easy to form a simple policy advice in this field but the sensibility of the incumbents to non-employment must be increased. Measures should be taken to maximise the volume of search on the labour market. In the case of central actions such as wage policy in the public sector or the increase of the minimum wage a careful *a priori* weighing of their labour market consequences is strongly recommended.

(2) Spatial mobility

The almost full privatisation of the rental housing, persisting low spatial mobility and the extremely high costs of daily commuting are to maintain the relatively low level of internal migration flows. There is a hope that increasing possibilities of mortgage financing will encourage people to move towards low unemployment regions. In the long term it is perhaps easier to promote the mobility of young people by building student dormitories, opening secondary schools for non residents, and offering sheltered jobs and training for young people from depressed areas. Short distance geographical mobility is heavily dependent on the availability of public transport. In Hungary gasoline prices are high compared to public transport fares. Public transport policies should therefore play an important role in improving the accessibility of urban centres for village dwellers. The subsidisation of fuel prices should be excluded from options because of the enormous dead-weight loss implicit in such a policy. The subsidisation of public transport companies raises similar concerns but, nevertheless, should be taken into consideration. Given the external economic effects of public transport there seems to be a strong case for mixed finance. (E.g. projects aimed at maintaining or starting particular coach services, with the financial contribution of affected local governments and firms, should be candidates for state support.) Instead of cutting transport services there is a need for a set of "commuter friendly" policies. In the case of villages well targeted subsidies of commuting costs could drastically increase employment probabilities for their residents. This applies above all to the vicinity of urban centres in well-performing western macro regions of Hungary.

(3) Education

To reduce regional labour market differentials – and by the same token, to reduce long term unemployment and increase the employment ratio, government policies should aim at increasing employability of workers by the development of human capital in less developed regions. The performance of Hungarian students in international tests used to be excellent. It is often pointed out that the highly skilled labour force with competitive wages was one of the main factors that attracted foreign investors to Hungary. Unfortunately, recent results of educational tests raise doubts about the quality and effectiveness of public education in Hungary. These tests have revealed a deterioration of student performance during the 90's together also with growing regional disparities in this field. This process seems to be the consequence of the deterioration of the quality of education in primary and secondary schools across regions and settlement types during the last ten years. As a result of the radical decentralisation of the educational system during transition, local governments have the responsibility of owning and managing primary and secondary schools and have the right to decide on the content of education. After 1993, no centrally-defined teaching methodology was mandated. Also, during this period the real wages of the teachers fell by 36 percent, which led to the decrease of the number of experienced teachers. A 1998 survey revealed

that one third of the primary and secondary schools was not able to prepare and to carry out a satisfactory curriculum.

In certain cases, especially in single firm settlements, i.e. in mono industry enclaves, co-ordinated actions reforming the local educational system could provide high returns by diversifying the supply of skills. In other cases e.g. remote villages with high rates of unemployment, extremely low wages on the local labour markets, high drop out rates and low quality of teaching in local schools it is more difficult to find solutions. According to Kertesi (2001) there is a need for integrated educational development programs, which address the different aspects of such an undesirable equilibrium of the labour market.

Educational expansion in Hungary took place without opening new public schools or by increasing their capacity in backward regions. Among the 3200 communities of the country only 200 have any kind of schools for secondary education. The network of dormitories is extremely underdeveloped, accommodation prices both in dormitories and in sublets are prohibitively high. This, together with the high costs of books, transportation and school programs creates severe obstacles to school continuation, especially in the case of children coming from rural low income families. (Kertesi and Köllő 2000) The most effective means of raising the educational level of the young generation is to extend the age of compulsory schooling by the introduction of mandatory general education until the age of 18. The extension of compulsory education requires policy action to promote backward communities in several fields. It is necessary to increase the capacity of schools and to open new ones, particularly in regions where there is an acute shortage of secondary schools. The travel and accommodation of students from communities without schools should be assisted.

Strengthening the working-age population's human capital, especially at the lower end of the labour market, will be one of the key factors of employment development. Reducing total employment costs, continuing productivity gains by stimulating investments by domestic and international firms are also important parts of a successful employment development strategy. National policies should be combined with regional and local policies focusing on the development of the entrepreneurial capacity of regions and employability of the local labour force. We do hope that the adaptation of the highly diversified institutional framework of European local development policies will encourage the sustainable development of employment in these depressed areas.

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ANNEX

Table A1.

Employment by gender and education level 1990-2001 (thousand)

Year	Male		Female		Total		
	unskilled	skilled	unskilled	skilled	unskilled	skilled	total
1990	1803,0	845,0	1380,0	1055,0	3183,0	1900,0	5083,0
1992	1321,2	840	928	936,5	2249,2	1776,5	4025,7
1993	1216,3	804	857,4	892,6	2073,7	1696,6	3770,3
1994	1210	786	812,4	884,1	2022,4	1670,1	3692,5
1995	1192,6	801	759,5	869,7	1952,1	1670,7	3622,8
1996	1185,3	808	727,9	883,9	1913,2	1691,9	3605,1
1997	1193,5	814	731,4	871,4	1924,9	1685,4	3610,3
1998	1203,7	815	726	930	1929,7	1745	3674,7
1999	1208,1	875	698,5	1009,9	1906,6	1884,9	3791,5
2000	1212,4	890	690,8	1035,9	1903,2	1925,9	3829,1

Source: Central Statistical Office: Labour Force Survey 1992-2000. Fazekas (2000), pp. 247, 249. Skilled stands for workers with secondary or higher educational background.

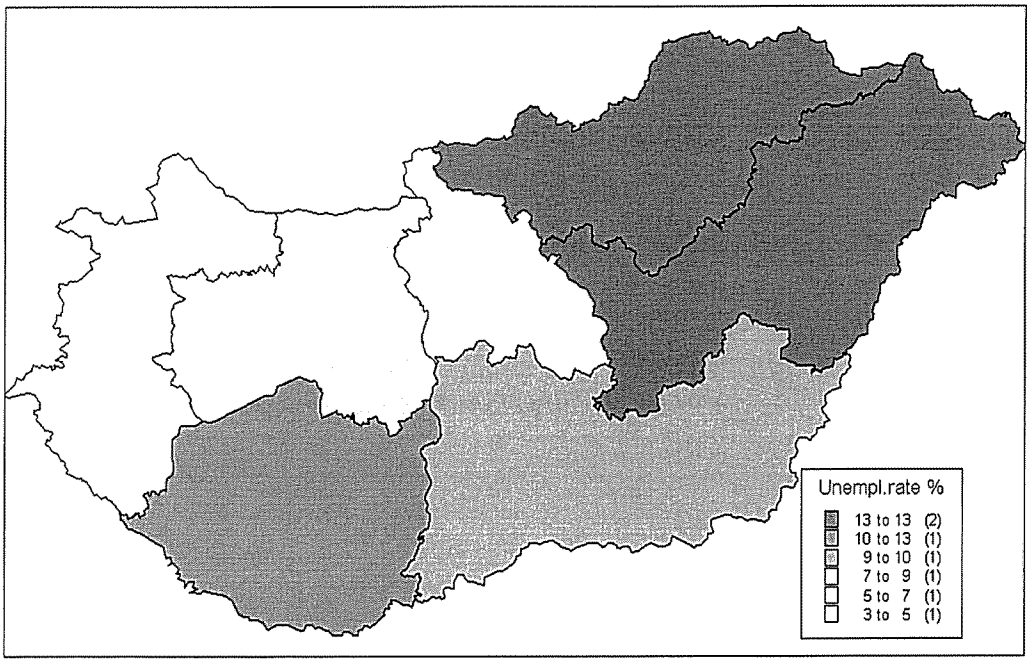
Table A2.

Economic Activity of Population Aged 15–74 by Sex

Year	Employed	Unemployed	Economically active	Economically inactive	Of which: passive unemployed	Population aged 15–74	Participation rate	Unemployment rate
1992	4 082,7	444,2	4 526,9	3 202,0	153,0	7 728,9	58,6	9,8
1993	3 827,3	518,9	4 346,2	3 417,1	116,5	7 763,3	56,0	11,9
1994	3 751,5	451,2	4 202,7	3 576,9	107,9	7 779,6	54,0	10,7
1995	3 678,8	416,5	4 095,3	3 724,4	106,7	7 819,7	52,4	10,2
1996	3 648,1	400,1	4 048,2	3 759,8	101,8	7 808,0	51,8	9,9
1997	3 646,3	348,8	3 995,1	3 804,9	94,7	7 800,0	51,2	8,7
1998	3 697,7	313,0	4 010,7	3 745,1	110,4	7 755,8	51,7	7,8
1999	3 811,5	284,7	4 096,2	3 620,8	109,1	7 717,0	53,1	7,0
2000	3 849,1	262,5	4 111,6	3 574,3	106,9	7 685,9	53,5	6,4
2001	3 859,5	232,9	4 092,4	3 584,3			53,3	5,7

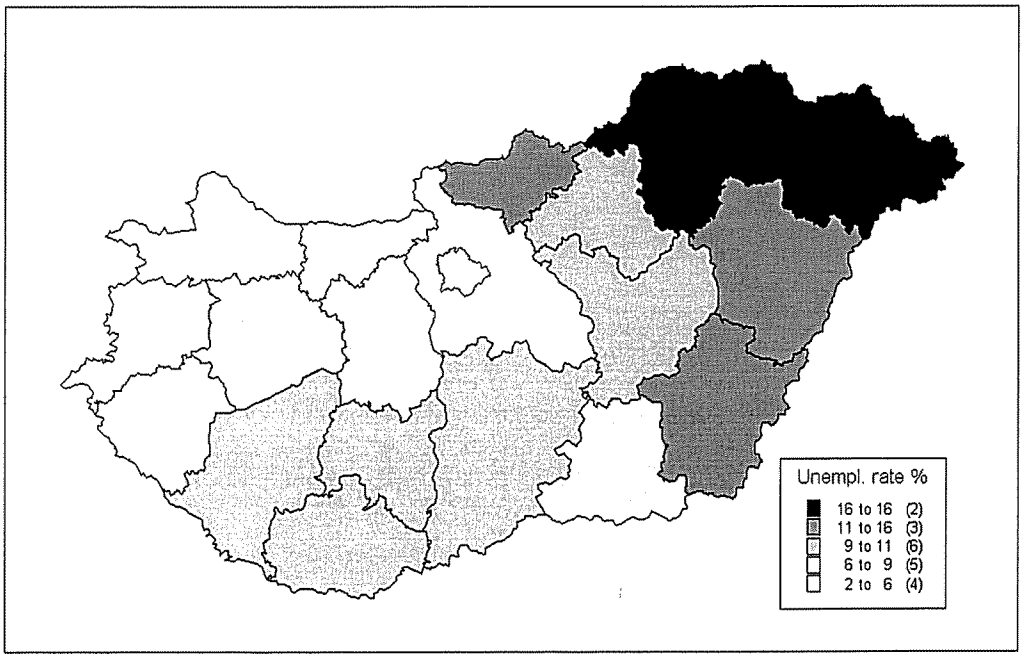
Source: Central Statistical Office: Labour Force Survey 1992-2001.

Map A1.
Unemployment rates in macro-regions (March 2001)



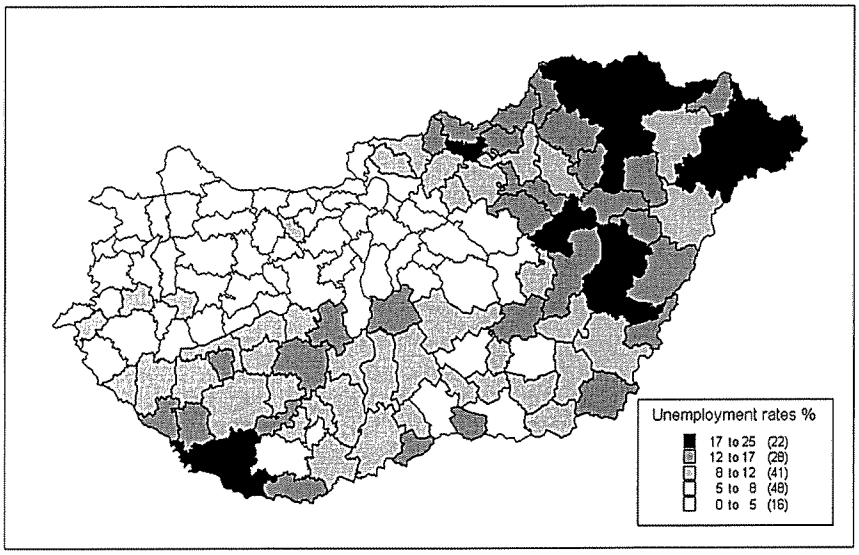
Source: CSO Labour Force Survey Data Base.

Map A2.
Unemployment rates in counties (2001)



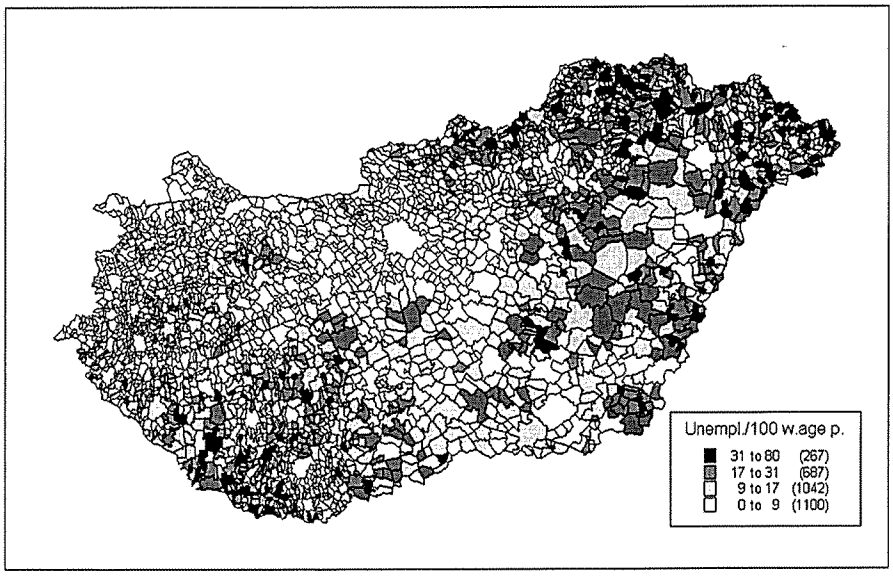
Source: CSO Labour Force Survey Data Base.

Map A3.
Unemployment rates in micro-regions (2001)



Source: NLC Data Base.

Map A4.
Unemployed/working age population ratios at settlement level (1999)



Source: NLC Data Base.

Reform Policy and New Institutional Developments

Peter Mihályi [§]

1. Introduction

The success of Hungary in the post-communist privatization 'competition' has not been the result of a well-designed blueprint. To the contrary, by emphasizing de-etatization and certain aspects of corporate governance, Hungarian policy makers for many years misunderstood the *raison d'être* of post-communist privatization. In this paper, I will argue that in comparison to other transition economies Hungary has done things differently, because it had been forced from the very beginning to divest its most valuable state owned enterprises (SOEs) against hard currency. At the outset, for many policy makers – let alone politicians – this was a painful and regrettable step. It was only around 1994-1995, when Hungarian privatization officials understood that selling virtually each and every "crown jewel" of the Hungarian economy to foreign strategic investors was a blessing in disguise. Only hindsight showed that this was the only conceivable way to put the Hungarian economy firmly on an export-led growth path. Other countries have understood this connection only recently. Today, it needs little explanation why we place the Hungarian privatization story into the context of worldwide **globalization**. Nevertheless, the world looked different in 1989/1990.

2. Suggested "privatization" models prior to 1989

When the new property right school gained popularity in the West, their ideas brought little news to Eastern Europe (Pejovich, 1990) In this region policy makers grew up on Marxist political economy. For them the idea that ownership matters was self-evident. In a way, they could have tapped each other's shoulders by saying that "our Western colleagues now discover that we always knew". As collective ownership had always had a variety of sub-forms (state owned industrial enterprises, industrial trusts, industrial co-operatives, state farms, agricultural co-operatives etc.) and these sub-forms performed differently in terms of technological progress, productivity and quality, the doors in Eastern Europe were open to consider various ownership forms *within* private ownership.

In the section-title above, the word privatization was put between inverted commas. Prior to 1989, privatization *per se* was never seriously contemplated neither in Hungary nor elsewhere. While property issues had been always in the forefront of thinking, Soviet and East European economists honestly took it for granted that nationalization was irreversible. For this reason, the quest for and the debates about more efficient forms of enterprise control were formulated not as property rights questions, but as questions of planning,

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market regulation and management incentives. But the reform proposals themselves were suitable to become privatization alternatives, when the political situation was ripe.[1]

- The *leasing model* was associated with Tibor Liska's life-work stretching from the mid-1950 to 1989. He was the only Hungarian economist who openly questioned state ownership. He was, however, equally critical of Western types of private ownership as well.[2] In 1966, he proposed leasing-type contracts between individual entrepreneurs on the one hand and the state on the other. He planned to build this relationship on a periodically recurring auction process, where the incumbent lessee could always be removed, if somebody else could offer a better deal for the state. Although the profession knew Liska's views, he remained marginalized for more than two decades. Incompletely though, Liska's ideas were finally turned into reality in the late 1970s, when a large number of shops, cafes and restaurants were leased to private entrepreneurs. By 1988, about 11 per cent of the shops and 44 % of restaurants operated in such schemes.
- The roots of the *holding model* went back to the preparatory discussions of the 1968 reform.[3] Already then several experts argued for the need to separate ownership rights from dispositional rights in order to boost capital mobility among SOEs. The problem was the following. Even if planners realized that shifts in world market prices or in technology would require capital redirection, there was simply no mechanism to do it. Planners were constrained to allocate the equivalent of net GDP growth (i.e. the increment) only, rather than restructuring GDP through company closures and setting up new SOEs (Hoch 1991). A few years later, the same suggestion surfaced in a seminal article of Tardos (1972). His idea was to create a small number of profit-maximizing financial institutions, as a personification of state ownership.
- *Self-management*, resembling to the Yugoslav *model* was also considered. But even its advocates (Bauer 1984) viewed it with a great deal of reservation. Nonetheless, the good experiences of the Hungarian agricultural co-operatives suggested that if industrial SOE employees were allowed to elect their managers, the firms would improve their performance in the same way as it happened in the agricultural sector between 1965-1975. To some extent, this proposition was realized as part of the 1984-85 enterprise reform, when most SOEs got an elected board-type leadership, the Enterprise Council.
- The *cross-ownership model* was the brainchild of Matolcsy (1988). He suggested that corporatized SOEs should be encouraged to hold stakes in other SOEs. Primarily, banks were identified as good candidates for cross-ownership, but some role was also envisaged for local authorities, pension funds, etc. The advantage of this model was

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[1] In academic circles, there was a general agreement that after 40 years of socialism, capitalism cannot be restored ("the wheels of history will not turn backwards"). Though private new ventures were supported by these economists, only a limited role was foreseen for them.

[2] For an English language summary of Liska's vision, see Macrae (1983), Bársony – Siklaky (1985).

[3] This was the so-called *New Economic Mechanism*, the introduction of which coincided with the Dubcek reforms in Czechoslovakia.

seen in helping to create a market for capital, where ownership rights and management rights were separated.[4]

With hindsight, it is fortunate that thorough theoretical discussions on various ownership models were already held prior to 1989. Years were spent with such discussions and this allowed the economic profession to digest all arguments speaking for and against the different models. When history put privatization on the agenda, the economic profession was prepared. This was important, since the protagonists of the academic debates soon went into politics or joined the government machinery.

It was very easy, for example, to identify the similarities between the Liska model and the *voucher method* of mass privatization. Both concepts assumed that everybody could become an entrepreneur, thus it was possible and desirable to turn a large segment of the population into capitalist owner without any previous track record and any form of upfront payment. Since the Liska proposal had been widely discussed earlier, the flaws of the voucher proposal were already known. In every society, entrepreneurship is a rare talent (Schumpeter 1943). Governments should not transfer assets to anyone by simply believing that the self-imposed candidate will be a good owner. Another shortcoming of the voucher proposal was also common with the weakness of the Liska-model. If assets were transferred to a new owner without any payment, this would encourage rent seeking. Since the new owner did not pay a penny, he could make an "undeserved" profit with reselling to any third party.[5]

The holding model of the 1970s resembled closely to the *investment fund model* introduced in Poland. Hungarian economists disliked it and argued that the state-created holdings would decrease rather than increase the transparency of market relations. Once the possibility of profit redistribution is allowed, neither the shareholders, nor stakeholders – banks, clients, potential investors, state supervision etc. – will be able to see through the smoke-screen generated by the holding's management. Thus, it seemed that the holdings would become a convenient channel for the political parties to intervene.[6] Furthermore, the question of legitimacy was raised. Soós (1990) singled out a paradox: if the holding management was

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[4] What Matolcsy proposed as a long-term solution, has started to become a reality much faster than anybody assumed. In 1988, the two-tier banking system was called into being when departments of the Central Bank were turned into commercial banking corporations. The newly created state owned banks were burdened with bad industrial loans, thus a debt-equity swap was a tempting quick fix solution. Indeed, bank managers immediately pushed their clients toward such deals. With the swap the bankers achieved two objectives. First, they cleaned the balance sheets in a technical sense, second they got a dispersed ownership structure. Prior to the swap, the banks were controlled by the state as a founder and a 100 % owner. After the swap, the banks were owned by a multitude of stakeholders which were individually all dependent from the management of the banks themselves. When the 1991 annual reports became known, everybody was surprised to see that in the five largest commercial banks more than 50 % of the shares were owned by the clients of the banks.

[5] In Czechoslovakia, this concern had been grossly neglected in the design of the voucher privatization. Thus, it was entirely inevitable that the new owners exploited this opportunity through arbitrage and/or through asset stripping or "tunneling" as it was later called.

[6] References were made to the Austrian *Parteibuchwirtschaft*.

not independent that was bad economics. If the managers were truly independent, that was unjust. How can they enjoy the action freedom equal to the freedom of an owner, if they are nominees, just like any government bureaucrat?

Similar arguments were raised against the cross-ownership model. Mihályi (1989) recalled the weaknesses of the German ownership model by saying that cross-ownership between banks and large industrial conglomerates was risky, especially if a precise and strong legal system was not present to minimize abuse.

The pre-1990 discussions served an educative purpose as well. It became clear for all participants that every privatization method had its weak points; therefore it would not be wise to put all eggs in one basket. Hungarian economists also understood and warned the political decision-makers in time that the management of existing SOEs would play a crucial role in the privatization process – whatever method is chosen. The government should assess the possible privatization methods with a watchful eye on these managers. Politicians, lawmakers should always ask themselves: if we do this, what would be the likely reaction of the SOE managers.

3. Limited choices

For western observers, the trivial the aim of privatization was to eliminate the inherent inefficiencies of social ownership and planning. It was argued that replacing bureaucratic incentives with profit-oriented ones at the company level would lead to increased **production efficiency** (Blommestein *et al.*, 1991). Priority was given to legal reforms, too. It was also understood that different ownership forms have different impact on **allocative efficiency.** It was also clear that competition, regulatory environment, macro-economic stabilization and trade liberalization also matters (Brabant, 1992).

In general terms, the situation in Hungary was not fundamentally different from that of any other Central and Eastern European country. However, due to some particular characteristics of the Hungarian political and economic landscape, such as

- the high level of foreign debt,
- the existence of joint ventures, and
- the early start of co-operation with Western banks and multilateral institutions,

successive governments were forced to steer privatization in a direction that explicitly favored foreign investors.

Right before and after the first democratic elections of 1990, Hungarian politicians had to find answers to two pressing questions: (1) what to do with the country's accumulated $20 billion

gross debt? (2) Was re-privatization (or restitution) a possible avenue towards the rapid divestment of state assets?

By now it has been already forgotten, that multinationals already present in 1990 had influenced the answers to both questions. Although their investment until 1990 had not exceeded $500 million, and they had stakes in less than 100 joint ventures, they were big names, such as *Girozentrale*, *Siemens*, *Adidas*, *Volvo*, *Ikea*, *Citibank*, *Societé Génerale*, *Creditanstalt* (Mihályi, 1993). The voices of the international financial community – including the Bretton Woods institutions[7] and foreign private banks – were also important. If Hungary defaulted on its debt, it was argued, the short-term implications on the exchange rate would question the economic rationale of all foreign investments made so far. Additionally, a privatization policy with a significant restitution component might question retroactively the legality of these investments. On the top of this, elementary calculations showed that the two issues – i.e. debt management and privatization – were closely interrelated. If Hungary decided to keep servicing its foreign debt fully, that was not possible without FDI inflows in the order of $1-2 billion per annum. In this logic, any attempt to re-schedule the debt was disastrous from the point of view of credit-worthiness and the chances of further borrowing. By servicing the debt despite the huge social burden it required, the Government wanted to impress private foreign creditors and investors.[8] **In other words, the divestment of Hungarian SOEs to foreign investors was an implicit debt-equity swap.**

Adopting and implementing a privatization strategy that openly favored foreign investors was not an easy proposition. Like in all other post-communist countries – or indeed in *all* countries of the world – lawmakers and privatization officials had to face suspicion and fear on the part of the electorate. To make matters even worse, the majority of Western "transition-experts" were critical to the emerging case-by-case selling strategy. This approach was called "crazy and disastrous" even three years after its launch, and therefore Hungary was constantly downgraded in comparison to those countries that espoused Czech or Russian-type of voucher privatization.

Fortunately, there were unique circumstances that helped the government. After the introduction of the 1968 economic reforms, Hungary suffered from a chronic underperformance of exports, as the fallout from decades of import substitution strategies. In looking for

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[7] Hungary joined GATT in 1973. The accession to the IMF and the World Bank took place in 1982.

[8] Mr. Bertalan Diczházi (1998), a close advisor of Prime Minister József Antall, quoted an interesting passage from a (still) unpublished policy paper of 1990: "From the perspective of attracting *foreign direct investments*, a policy of in-kind restitution would have especially had serious consequences. After entering office, the Government completed a series of international political and economic negotiations in order to assess the likely reaction of foreign governments, international monetary institutions and leading investor groups to an eventual all-encompassing reprivatization strategy. It became crystal clear that, from a business point of view, the international community would react negatively to changes in the Hungarian economy and society that might jeopardize *retroactively* past investments and newly developed business relationships. And – as far as the future was concerned – such policies would freeze for many years the *majority of potential foreign direct investments*. (*op. cit.*, p. 26, translated from Hungarian, highlights by Mr. Diczházi.)

better export performances, Hungarian policy makers received intellectual support from two of their compatriots: Béla Balassa and Nicholas Kaldor, living in the United States and the United Kingdom, respectively. These outstanding economists were frequent visitors to their native country already in the 1970s.

Both Balassa (1982) and Kaldor (1971) were advocates of *export-led growth*. Their teachings and policy recommendations were well received in Hungary by foreign trade experts such as András Inotai, Béla Kádár, András Köves and András Nagy. From the works of these Hungarian authors, a new theory of industrial development emerged already in the 1980s. From the analysis of export statistics of fast-growing countries, these authors concluded that even moderately sophisticated manufactured goods could not be exported successfully unless the country in question was fully integrated into the international networks of multinationals. This change in the perception of understanding the conditions of a successful export-led growth policy turned Hungary by the early 1990s into the only transforming economy conducting a fully-fledged open door policy *vis-à-vis* FDI (Csaba, 1997).

4. Institutional developments

The privatization process in Hungary cannot be understood without stressing strongly its centralized nature. From March 1990 to date, SOEs have been owned, managed and divested by a single institution headquartered in Budapest. This is unique. In most countries, the privatization agency is only a policy arm of a national property fund or the branch ministries. Furthermore a geographical division of labor characterized the daily work of privatization agencies. The first advantage of the extreme centralization was power itself. Privatization went ahead, because the privatization agency had the power to do so. But the benefit of centralization demonstrated itself in the transparency of the procedures as well. For all stakeholders – including foreign and domestic investors, the media and the Hungarian public opinion at large – it was much easier to monitor developments in a single organization. This scrutiny forced discipline upon privatization managers as well.

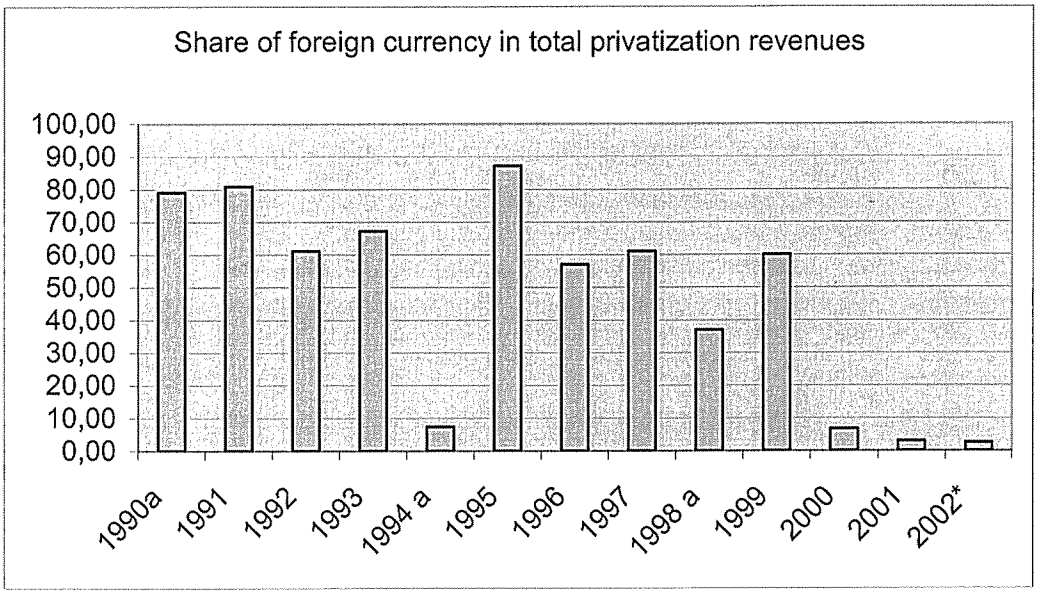
This was a learning process, in which decision-makers learned from each other, from foreign advisors and from the investors themselves. Surprisingly, in the course of practical work, thorny theoretical questions often presented themselves in a much a simpler form. The management of the privatization agency arrived at the following conclusions:

- different investment proposals could be compared adequately only on a cash basis, soft promises on employment or investment were hardly comparable;

- there was no effective mechanism preventing Hungarian buyers to act as intermediaries for foreign companies or to forbid them to re-sell their newly acquired assets to foreigners at a later stage;

- there was no possibility to distinguish between "true" entrepreneurs on the one hand and "adventurers" on the other;
- divestment of existing SOEs and greenfield FDI went hand in hand as a commercially successful, clean and well-publicized sales transaction helped to attract FDI into other activities through a general improvement of the investment climate;
- mass-privatization techniques and sales assisted by soft credits or discounts could lead to a give-away of the country's most valuable firms to politically well-connected persons or even persons linked to illegal activities and corruption.
- selling Hungarian companies to foreigners was (Figure 1), a good strategy to preserve their jobs under the permanent public fire of corruption accusations. In defending sales decisions, when Hungarian investors were ranked second or third behind foreign investors, the demonstration of higher (hard currency) cash payments helped enormously.

Figure 1.



Source: Hungarian privatization company (ÁPV Rt.).

[a] Year of general and local elections.

After the second elections in 1994, Hungarian privatization officials realized that the interest of the very large foreign investors, the transnational corporations (TNCs) was limited to 30-50 manufacturing firms and financial institutions. Only then it became clear that the earlier analytical approach that distinguished between *small-* and *large*-scale privatization had been inadequate (Mihályi, 1996a). These were the companies that:

- could generate significant privatization revenues in hard currency;
- were important as export producers;
- were sources of positive externalities on the domestic markets (e.g. banks, telecommunication);
- required regulation even if privatization had not taken place (e.g. banking, energy and telecommunication).

The recognition of these links helped the privatization agency to concentrate on these very large deals – essentially deals with TNCs – while, the divestment of the remaining portfolio was treated almost as a political "public relation" exercise. The importance of this latter point can be hardly overemphasized.

It is widely held that rent seeking and asset-stripping intentions are the characteristics of foreign investors. The Hungarian experience, by contrast, suggested otherwise. Short-termism was characteristic to investors with little money (be they foreigners or endogenous). Since in a privatization deal not just money, but scarce top managerial time is involved, together with the prestige of the investor, TNCs can hardly afford such malpractice.

5. The impact of globalization – a new interpretation

During the period of 1980-1994, the total exports of Hungary stagnated, with blips in 1989 and 1993. It was only in 1995 that exports from Hungary were put firmly on a steeply rising growth path. The connection between export performance and the presence of TNCs was easy to establish. In 1992, half of the top 10 Hungarian exporters had still been owned and managed by Hungarians. By 1998, out of the top 10 exporters only three companies remained under Hungarian management and there was only one, in which the State retained majority ownership. In this way, the open door policy towards TNCs and the intellectual support for export-led growth policies mutually reinforced each other. Hungary was lucky to find itself in a virtuous circle.

For many years, transition economics was interpreted written as a cookbook with simple recipes:

- Create and maintain macroeconomic stability,
- Introduce a state-of-the-art corporate governance regime;
- Teach the new private managers how to find the optimal combination of inputs and how to apply state-of-the-art management techniques.

If you do all this, the former state owned enterprises would become competitors of *General Electric*, *Motorola* or *Shell*. With hindsight, we have to be realistic. The 5-10 thousand middle-size and large SOEs of Central and Eastern Europe did not have the slightest chance to become TNCs and/or to compete with the already existing TNCs. It should have been also publicly acknowledged and propagated that the viability and international competitiveness of de-etatized SOEs does not depend on the right combination of inputs, their capacity to innovate and learning modern sales methods or their willingness to harden the budget constraint. The truth is that **already in 1989, the companies of Central and Eastern Europe were hopelessly disadvantaged against the existing TNCs in the worldwide size competition.**[9] This was and remains the crux of the problem. The suggested and often implemented round-about ways and means to "fix" this shortcoming by creating privatization intermediaries, supporting cross-ownership with banks[10] solved little at best and caused irreparable harm at worst.[11]

In retrospect, it is obvious that size matters not only on the export markets of manufactures. From the very beginning of the transition, the large TNCs could easily penetrate and capture the traditional domestic markets of the former SOEs as well. In some countries, the penetration took place first on the traditional industrial markets, while services, including the financial sector were taken over later. In other countries, – e.g. the former GDR, the three Baltic countries or Hungary – the insurance and banking sectors were concurred already at an early stage.[12]

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[9] Politically, of course, such a message would have been difficult to embrace by the respective Central and East European governments. However, it was quite visible already at that time, that the former managers of SOEs had intuitively understood all this. Many of them resisted privatization, precisely because they new that their firms, be they big and powerful on the protected domestic market, were all ridiculously small in comparison with their international competitors As the president of Hungary's largest company said at one point: "The oil multies of the world are bigger by three orders of magnitude than the largest East European oil company. At some point, the multies will "hoover up" us all."

[10] This was explicitly recommended in an important study of the EBRD (Phelps *et al.*, 1993).

[11] Recent economic history knows only one counter-example: Nokia. But the success of the Finnish company, as a Hungarian proverb says, is only the exception which confirms the rule.

[12] For a recent overview of developments, see the proceedings of a series of UNCTAD conferences under the title *Privatization and Greenfield FDI in Central and Eastern Europe: Does the Mode of Entry Matter?* in Kalotay (2001).

Where the scale effect is important, unit costs are considerably lower for TNCs, which is a big advantage. Larger size also implies stronger financial power, which in turn can be used as a collateral to bank loans in supporting capital formation, new projects and research. Larger companies are more attractive to school leavers. They can offer higher salaries and a more promising carrier path. Established trademarks, such as Coca Cola or Citibank greatly increase the chances of success in marketing and public relations.

In this context, it is particularly instructive to remind us what happened in the banking sector. In the former East Germany, West German banks took over 100 per cent of the market literary on the very first day of economic transition (i.e. with the introduction of the D-Mark on July 1, 1990). In the Baltic countries, it took 3-4 years for the Nordic neighbors to settle themselves. In Eastern Europe, the first post-communist Hungarian government had resisted for four years to sell banks to foreigners and only the costly and painful lessons of recapitalization forced the second government to allow the foreign domination of the Hungarian banking sector. After the Hungarian "capitulation" in 1995, the Czech and the Polish governments followed the lead, while the former Yugoslav republics, Bulgarian and Romania remained temporarily behind.

Practice showed also that once the penetration of TNCs begins into a certain market segment, it is difficult to find a "right" balance between TNCs and domestic firms. In the case of the banking sector, for example, the point-of-no-return was quickly achieved, when clients had to make a decision with whom they want to bank in the future. Will they keep their accounts with a domestic bank and risking another bank failure, or rather they switch to an "AAA"-rated OECD bank, where the mother company will guarantee their deposits under all circumstances? In the case of enterprises, this tendency has been further strengthened by the fact that TNCs operating in the manufacturing sector prefer to bank with the same bank worldwide. In this logic, the preference of the local management to bank with a locally owned bank simply does not make sense.

Privatized Central and East European companies are typically not self-contained single level entities. They are merely subordinated units of a TNC, headquartered somewhere else in the world. From the perspective of the TNCs, these Central and East European operations are not fully-fledge companies, or profit maximizing entities. Although these entities do have well defined, but limited goal functions – production and/or distribution and sometimes even research and development – but it is not expected from them to develop a complete set of enterprise activities. Another consequence of the multi-level character of TNCs, that within these Central and East European companies, the principle-agent contradiction – i.e. the conflict of investors and managers – does not manifest itself at all. There is no need for governing bodies (board of directors, supervisory board) either. One or two designated managers directly represent the interest of the foreign owner.

Table 1 and 2 illustrate this point by presenting the evidence of Hungarian manufacturing and financial companies respectively. **Out of top 100 Hungarian companies, 63 are directly owned by a large TNC.** Quite clearly, the legal form of operation itself shows the irrelevance of corporate governance, the companies are not shareholding corporations (abbreviated as Rt. in Hungarian), but limited liability companies only (abbreviated as Kft. in Hungarian). From the top 100 largest companies, only 66 is operating as a shareholding company, in the other 34 firms there are only owners, but not shareholders. This, of course, excludes the possibility of public trading with the shares. The figures also reveal that even if it is technically possible, only 17 of the largest 100 firms were – at least at some point of their history – actually traded on the Budapest Stock Exchange (BSE) or elsewhere.[13] Table 3 completes the Hungarian picture with the listing of all commercial banks. While these banks are all joint stock companies – because the law does not permit any other form – there are only three banks, where the distributed ownership structure may require sophisticated corporate governance measures.

[13] This complicated formulation is required, because there is a growing number of delisting from the BSE. In addition, there is a growing number of "dormant" shares without any trading at all.

Table 1.

Largest 20 Hungarian companies

(Ranked by 2000 net revenue)

Rank	Name	Net revenue in Euro mn	Method of establishment	Present ownership form	Type of owner	Listed on the Budapest Stock Exchange	Nationality of top local executive
[1]	MOL Hungarian Oil and Gas Rt.	4.271	SOE --> partitioned	Joint stock company	Financial investors	Yes	Hungarian
[2]	Audi Hungaria Motor Kft.	3.753	Greenfield investment	Limited liability company	TNC - strategic investor	No	German
[3]	Philips Hungary Kft.	2.665	Greenfield investment	Limited liability company	TNC - strategic investor	No	Dutch
[4]	IBM Storage Product Kft.	2.633	Greenfield investment	Limited liability company	TNC - strategic investor	No	German
[5]	Matáv Rt.	1.858	SOE --> partitioned	Joint stock company	TNC - strategic investor	Yes	Hungarian
[6]	Hungarian Electricity Works (MVM) Rt.	1.415	SOE --> partitioned	Joint stock company	State ownership	No	Hungarian
[7]	Panrusgaz Rt.	1.209	Greenfield investment	Joint stock company	Diversified ownership. 49% owned by [1]	No	Russian
[8]	Flextronics International Kft.	1.021	Greenfield investment	Limited liability company	TNC - strategic investor	No	USA
[9]	Metro Holding Hungary Kft.	841	Greenfield investment	Limited liability company	TNC - strategic investor	No	Hungarian
[10]	GE Hungary Rt.	774	SOEs merged	Joint stock company	TNC - strategic investor	No	USA
[11]	Opel Hungary Kft.	745	Greenfield investment	Limited liability company	TNC - strategic investor	No	German
[12]	Hungarian State Railways (MÁV) Rt.	739	SOE unchanged	Joint stock company	State ownership	No	Hungarian
[13]	Dunaferr Danube Steel Works Rt.	721	SOE unchanged	Joint stock company	State ownership	No	Hungarian
[14]	Tisza Chemical Works (TVK) Rt.	653	SOE unchanged	Joint stock company	Diversified ownership. Majority owned by [1]	Yes	Hungarian
[15]	Westel Rt.	638	Greenfield investment	Joint stock company	100% owned by [5]	No	Hungarian
[16]	Budapest Electricity Work (ELMÜ) Rt.	569	SOE --> partitioned	Joint stock company	TNC - strategic investor	No	Hungarian
[17]	Tesco Globál Department Stores Rt.	527	Greenfield investment	Joint stock company	TNC - strategic investor	No	UK
[18]	Magyar Suzuki Rt.	525	Greenfield investment	Joint stock company	TNC - strategic investor	No	Japan
[19]	Hungarotabak - Tobaccoland Tobacco Trade Rt.	520	SOE unchanged	Joint stock company	TNC - strategic investor	No	German
[20]	Shell Hungary Trade Rt.	493	Greenfield investment	Joint stock company	TNC - strategic investor	No	Hungarian

Source: Budapest Business Journal, Book of Lists, 2001-2002, p. 142 and author's own research.

Notes: Without financial institutions. Some companies were first listed on, then delisted from the Budapest Stock Exchange (BSE).

Table 2.
Largest 100 Hungarian companies
Ranked by 2000 net revenue

	Ranking					Total
	1-20	21-40	41-60	61-80	81-100	1-100
Method of establishment						
- SOE	4	14	16	13	16	63
- SOEs partitioned or merged	5	0	0	2	1	8
- Greenfield investment	11	6	4	5	3	29
Present ownership form						
- Joint stock company	14	11	17	12	12	66
- Limited liability company	6	9	3	7	8	33
- Other	0	0	0	1	0	1
Type of ownership						
- TNC - strategic investor	15	15	12	12	9	63
- Financial investors	1	0	2	0	2	5
- State or municipal ownership	3	3	2	1	1	10
- Other	1	2	4	7	8	22
Listed on the BSE or elsewhere	3	1	9	2	2	17
Nationality of top local executive						
- Hungarian	10	11	13	12	16	62
- Other	10	9	7	8	4	38

Sources and notes: See Table 1.

Table 3.
Commercial banks in Hungary
Ranked by unconsolidated total assets in 2000

Rank	Name	Unconsolidated total assets in HUF bn	Unconsolidated total assets in Euro mn	Year established in Hungary	Largest shareholder(s)	Listed on the Budapest Stock Exchange	Nationality of top local executive
	(2)	(3)	(4)	(5)	(6)	(7)	(8)
[1]	OTP Bank	1.931	8.046	1949	Institutional investors (80%), small investors (20%)	Yes	Hungarian
[2]	K&H Bank	1.089	4.537	1986	Belgian and Dutch Banks (99%)	No	Canadian
[3]	MKB	790	3.291	1950	Bayerische Landesbank group (99%)	No	Hungarian
[4]	CIB Bank	680	2.833	1979	IntesaBci S.p.A. (100%)	No	Hungarian
[5]	HypoVereins-bank Hungária	501	2.086	1993	HypoVereinsbank group	No	German
[6]	Raiffeisen Bank	351	1.461	1986	Raiffeisen Banking Group (96,3%)	No	Hungarian
[7]	Postabank	331	1.380	1988	State owned	No	Hungarian
[8]	ÁÉB	329	1.372	1922	Gazprom group (100%)	No	Russian
[9]	Budapest Bank	321	1.335	1988	GE Capital (100%)	No	US
[10]	Citibank	314	1.309	1986	Citibank group (100%)	No	Czech
[11]	Erste Bank	200	833	1986	Erste Bank (99,3%)	No	Hungarian
[12]	Inter-Európa Bank	152	633	1981	Italian banking groups (84%), institutional investors, small investors (15%)	Yes	Italian
[13]	Commerzbank	145	604	1993	Commerzbank AG (100%)	No	German
[14]	ING Bank	143	597	1991	ING Bank N.V. (100%)	No	Dutch
[15]	Takarékbank	115	477	1989	DG Bank (72%), Hungarian savings cooperatives (23%), Allianz Hungaria Insurance (5%)	No	Hungarian
[16]	BNP Paribas	91	378	1990	BNP Paribas (100%)	No	Hungarian
[17]	Westdeutsche Landesbank	77	321	1993	Westdeutsche Landesbank (100%)	No	German
[18]	Volksbank	70	293	1991	Volksbank group (100%)	No	German
[19]	Deutsche Bank	67	280	1995	Deutsche Bank (100%)	No	Hungarian
[20]	Konzumbank	64	267	1986	State owned	No	Hungarian
[21]	Credit Lyonnais	42	175	1992	Credit Lyonnais (100%)	No	French
[22]	Daewoo Bank	42	175	1989	Daewo Securities (100%)	No	South Korean
[23]	Rabobank	26	107	1995	Rabobank group (100%)	No	Dutch
[24]	Société Générale	14	59	1998	Société Générale (100%)	No	French
[25]	Hanwha Bank	9	36	1990	Hanwha group (99%), Hungarian Education Ministry (1%)	No	South Korean
[26]	ICB Bank	5	19	1993	Malaysian individuals (100%)	No	Hungarian
[27]	Credigen Bank	2	8	1999	Sofinco (100%)	No	French

Source: See Table 1.

Notes: Some of the data in columns (2, 6-8) reflect changes occurred in 2001 and 2002.

Another aspect of the multi-layer operation of modern firms is reflected in foreign trade. In contrast to the neoclassical paradigm, a firm's capability to produce "high quality-low price" goods is not a guarantee to find markets. The Central and East European companies have virtually no chance to market their products on world markets if they remain specialized in end-products. World trade of manufactures consists largely of intra-industry trade. **For the relatively small firms of Central and Eastern Europe the only alternative is to integrate themselves into the production and supply chains of TNCs.**

One can argue, of course, that introduction and propagation of good corporate governance is important for the transition economies, even if this can apply only to the domestic-owned middle-size companies. This argument can be developed further in three ways.

First, it can be said that good corporate governance is also good for the health and stability of domestic companies. After a closer inspection of the accumulated evidence, however, the reverse argument appears to be equally logical. It seems that the strength and the viability of *private*[14] middle-size domestic firms are based on non-formalized, quick decision-making, where the business instincts of a single decision-maker prevails over collective deliberations. It is a fact, that these domestic companies are extremely secretive towards all stakeholders, with the important exception of banks. There is little official communication beyond the legal minimum[15], company managers refuse to talk to the press about substantive matters and even employees are not informed about company matters. On the other hand, these companies maintain close and open relationship with their banks, because they have to. This is where financing comes from. But all other stakeholders are unimportant.

Although, the lack of formal decision-making structures and the vehement rejection of transparency requirements may sound primitive for sophisticated model-builders there is no alternative for domestic, middle size firms, if they want to survive. Let us face it, **flexibility, quick decision-making, secret operation and close links to creditors are the only specific factors rendering Ricardian comparative advantage to these middle-size firms *vis-à-vis* the very large TNCs.**

Let us consider another argument. Even the domestic firms would be better off, if they rely on equity financing rather than loan financing. Unfortunately, this is not true either. The

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[14] The word "private" is emphasized here to clearly differentiate the situation of *de nouvo* created private firms or privatized former SOEs from those which are still *de facto* state owned in one way or another. In Central and Eastern Europe there are many tricks how state ownership can be hidden behind the veil of municipal ownership, cross-ownership, ownership chains, differentiation among shareholders' class, etc. Unfortunately, the poor performance of these quasi-privatized firms is often falsely interpreted in the literature. Instead of discovering the "devil" of state ownership behind the veil, foreign observers explain everything in the context of *internal* and *external* control.

[15] In Hungary, the company law requires that a copy of the annual tax report has to be deposited with the Court of Registry within 30 days after the closing of the tax reports. Many companies deliberately break this law year after year and the prefer to pay a fine instead.

volume of capital requirements are too small, thus the unit costs implicated by an IPO and the subsequent presence on the stock market have proved to be prohibitive in many Central and East European countries.

A third way of arguing in favor of transparent corporate governance is to look at the motivation of domestic financial investors. Indeed, this proposition had been discussed at the beginning of the transition (Kornai, 1990, UN ECE 1994. p. 16.), and the conclusion was that foreign investors would not enter the Central and East European markets *until* they see that the domestic investors are fairly treated and well protected. Actual developments showed that the sequencing was reverse. In the Czech Republic, Hungary and in other places, domestic investors were unwilling to move until the foreign funds appeared. In retrospect, the explanation is quite simple. Only the very large foreign funds were able to generate sufficient liquidity for the stocks and thus a relative stability to the market as a whole. Without the participation of foreign funds, the domestic stock exchanges bound to be extremely volatile.

The economic success of the Baltic countries illustrates another interesting point. Due to the particularities of their post-1990 transition paths, the very smallness of these three countries almost equally impacted their equity and government securities markets, as well as their foreign exchange market (Sutela, 2000). There is simply almost nothing to invest in. These countries inherited zero debt from the USSR, central government balances have been quite good and pattern of foreign investment was in favor of long-term strategic investors (as opposed to financial investors). The example of the Baltics reminds us to the fact that asset markets are integrated in a horizontal way, too – once again a consideration missing from the neoclassical paradigm. In other words, the lack of sizeable bond and foreign exchange markets reduces the motivation of foreign investors to participate actively at the equity markets, even if these latter markets are perfectly liberalized and transparent (as it happens to be the case in the Baltics).

6. The Western perspective

Looking at Central and Eastern Europe with a neoclassical eye, the behavior of transnational foreign investors could be easily misinterpreted, which then lead to wrong forecasts. A the beginning of transition it was assumed that the willingness of privatization would automatically trigger a "pull" effect – the supply of investment possibilities would create its own demand. As said before, the neoclassical vision of firms' behavior did not pay attention to the economy of scale, and variation of scale effects from sector to sector. In reality, FDI flows have always been concentrated in those few sectors, where the scale effect is the largest (telecommunication, energy, information technology, pharmaceuticals, banking, etc.) In other sectors, everything – including the relatively low price of productive assets, the well-functioning R+D basis which was created during the last two decades of socialism, or the traditional East European trade marks – was totally disregarded.

Another mistake – almost inevitably following from the previous one – is the underestimation of geographical considerations. *Geography matters*. As the eye moves eastwards on the map of Europe, the appetite of TNCs is continuously weakening. There are several factors working here: increased transportation costs, language and cultural differences. Landlocked countries have an additional disadvantage. In sum: bad location is a big handicap that even perfectly implemented corporate government reforms could not fully counterbalance.

The **scale effect** and the **location effect** often reinforce each other. The Central and East European experience shows that it matters a lot, which country is chosen first as an investment opportunity. Once a major investment takes place, say in the Czech Republic, it makes little sense for the same TNC or even for a competitor of this TNC to start business in the neighboring Slovakia.

Geography matters in another sense as well. The danger seriously threatening the interest of cross-border investors is not the minority shareholder position. For cross-border investors, three other risks are far more important:

- Country risk,
- Exchange rate risk and
- Regulatory risk.

To make the matter even more complicated, the firs two types of risks have to be considered in a regional, if not worldwide perspective. Financial investors are driven by herd behavior, which is a cause and a consequence of the contagion of crisis from one market to another.[16] Regulatory risks are important, because TNC concentrate their activities in network industries (which is in turn results increasing returns). The network industries, however, are usually regulated by national governments and/or supranational organizations.[17] If these regulations are not neutral or – for any other reason – severely constrain the freedom of the investor, this can do much more harm than the lack of sophistication in corporate governance.

7. The Austrian perspective

The developments in Austrian outward investments into former Hungarian SOEs corroborate our findings above. **Geography matters.** As a neighboring country, Austrian entrepreneurs are represented by the highest number of privatization deals (Table 4). In the period 1988-

[16] To make the matter even more complicated, recent evidences suggest that the herding behavior itself is not constant. It is a variable of the equation. In 1998, the Russian bond market crisis had far reaching contagion effects, three years later a disaster of major magnitude in Argentina sent much smaller shock waves around the world.

[17] The importance of national price and tariff controls are only the trivial examples in the energy and telecommunication sectors, but the role of the WTO, the ITU and the BIS are also important in determining profit-generating possibilities in the pharmaceutical, the broadcasting and the banking sectors, respectively.

2002, there were 150 registered transactions, which are listed one by one in Table 5. A closer inspection of these transactions reveal that the bulk of them were concluded in the early period of 1988-1993 – another evidence of the importance of geographical proximity. It is also interesting to see that many privatization deals were implemented stage-wise. Thus the Austrian investor was willing and had the possibility to increase its ownership share in the course of several years.

Table 4.
FOREIGN INVESTMENTS

Total sales, 1988-2002

	Transactions number	**Transactions** HUF billion	**Share** (%)
Germany	125	292,56	24,68%
U.S.A.	51	166,57	14,05%
France	54	103,25	8,71%
Austria	**150**	**60,91**	**5,14%**
Belgium	15	53,45	4,51%
The Netherlands	23	43,84	3,70%
Italy	28	34,88	2,94%
U.K.	39	20,04	1,69%
Switzerland	20	18,39	1,55%
CIS	17	10,23	0,86%
Sweden	15	5,74	0,48%
Finland	3	6,3	0,53%
Greece	4	1,92	0,16%
Luxemburg	7	1,6	0,13%
Others	32	8,82	0,74%
International placement of shares (stock exchange)*	38	356,88	30,11%
TOTAL	**621**	**1 185,38**	**100,00%**

Notes: The table shows the number of transactions with foreign ownership, the contractual value of the investments and their distribution by countries since 1990. Investments include sales, contributions, in kind, capital increases, sale of shares, business portions, etc.

The table does not include "Greenfield" investments.

* A significant part of it was acquired by Austrian investors.

Table 5.

Austrian Investments in Hungary, 1988 – 2002

(Ranked by actual transaction size)

No.	Hungarian target company	Austrian investor	Date	Sector	Total capital (HUF 1000)	Transaction value (nominal, HUF 1000)	Transaction value (actual HUF 1000)	Type of investment	% share of acquired ownership
1	Papíripari V.	Hamberger GmbH	1990	Manufacturing	...	*5.334.000*	5.334.000	Approval only	...
2	Mezôbank Rt	Erste Bank der Oesterreichischen Sparkassen AG	1997	Banking	4.080.033	*2.874.335*	4.937.600	Corporatization	83,7
3	Richter Gedeon Vegyészeti Gyár Rt.	Creditanstalt	1994	Manufacturing	110.741.089	*4.413.512*	4.413.512	Sale	25,0
4	DUNAPACK Papír és Csomagolóanyag Rt.	Mosburger AG	1995	Manufacturing	10.049.734	*2.997.430*	3.169.089	Corporatization	60,0
5	Magyar Kábel M\vek Rt.	Wienerkabel und metallwerke GmbH	1993	Manufacturing	5.593.226	*2.113.600*	2.760.150	Corporatization	...
6	Szabadegyházi Szeszipari V.	AGRANA	1990	Beverages	...	*2.524.000*	2.524.000	Approval only	...
7	Tiszántúli Gázszolgáltató V.	PAM GAS GmbH	1992	Energy	...	*1.904.400*	1.904.400	Approval only	...
8	Dél-dunántúli Gázszolgáltató V.	PAM GAS GmbH	1992	Energy	...	*1.722.800*	1.722.800	Approval only	...
9	Dél-alföldi Gázszolgáltató V.	PAM GAS GmbH	1992	Energy	...	*1.701.800*	1.701.800	Approval only	...
10	CSEMEGE-JULIUS MEINL Rt (Csemege – Match Kereskedelmi Rt)	Julius Meinl	1991	Retail trade	4.647.087	*996.000*	1.344.600	Corporatization	...
11	DUNAPACK Papír és Csomagolóanyag Rt.	Hamburger AG	1994	Manufacturing	10.049.734	*1.200.000*	1.200.000	Sale	24,0
12	BUSZESZ Rt.	Danubia Lebensmittel GmbH	1991	Beverages	3.206.267	*1.145.000*	1.145.000	Sale	...
13	Petőházi Cukoripari Rt.	Ostzucker Beteiligungs AG	1990	Food	...	*1.137.200*	1.137.200	Capital increase	...
14	Magyar Kábel Művek Rt.	Wienerkabel und metallwerke GmbH	1994	Manufacturing	5.593.226	*1.100.000*	1.100.000	Sale	17,2
15	Gardénia Csipkefüggönygyár Rt	GITCO Ltd.	1991	Manufacturing	1.246.481	*900.000*	900.000	Capital increase	...
16	CSEMEGE-JULIUS MEINL Rt (Csemege - Match Kereskedelmi Rt)	Julius Meinl	1991	Retail trade	4.647.087	*900.000*	900.000	Sale	...
17	Petôházi Cukoripari Rt.	AGRANA	1992	Food	4.770.945	*871.900*	883.278	Sale	23,0
18	Kaposcukor Rt.	AGRANA	1990	Food	2.866.799	*800.000*	800.000	Capital increase	...
19	DUNAPACK Papír és Csomagolóanyag Rt.	Mosburger AG	1994	Manufacturing	10.049.734	*800.000*	800.000	Sale	16,0
20	Észak-dunántúli Téglaipari Rt.	Krainer GmbH	1995	Manufacturing	971.912	*756.630*	760.000	Corporatization	90,0

No.	Hungarian target company	Austrian investor	Date	Sector	Total capital (HUF 1000)	Transaction value (nominal, HUF 1000)	Transaction value (actual HUF 1000)	Type of investment	% share of acquired ownership
21	FÖLDGÉP Általános Mélyépítô Rt (PYRUS-FÖLDGÉP Körny. Szolg.)	PORR Umwelttechnik AG	1993	Road construction	542.197	*494.000*	706.420	Corporatization	77,2
22	Graboplast Rt.	CA Investment Banking AG	1994	Manufacturing	16.426.319	*700.000*	700.000	Corporatization	30,0
23	Magyar Kábel M\vek Rt.	Wienerkabel und Metallwerke GmbH	1994	Manufacturing	5.593.226	*528.400*	686.920	Sale	8,3
24	Magyar Kábel M\vek Rt.	Wienerkabel und Metallwerke GmbH	1993	Manufacturing	...	*675.000*	675.000	Approval only	...
25	Kaposvári Közúti Építô V.	STRABAG Österreich AG	1990	Construction industry	...	*637.009*	637.009	Approval only	...
26	STRABAG Hungária Építô Kft.	STRABAG Österreich AG	1991	Construction industry	1.270.000	*637.000*	637.000	Corporatization	...
27	Magyar Kábel Müvek Rt.	Wienerkabel und Metallwerke GmbH	1994	Manufacturing	5.593.226	*748.400*	576.268	Sale	11,7
28	Kaposcukor Rt.	AGRANA	1992	Manufacturing	...	*562.100*	562.100	Sale	21,9
29	Észak-Budai Vendéglátó V.	GABEG HOTEL UND GASTSTATTENBETRIEBS GmbH	1990	Catering and tourism	...	*535.000*	535.000	Approval only	...
30	BUSZESZ Rt.	Danubia Lebensmittel GmbH.	1992	Beverages	3.206.267	*450.000*	531.166	Sale	17,0
31	Gardénia Csipkefüggönygyár Rt	GITCO Ltd.	1991	Manufacturing	1.246.481	*550.000*	520.167	Corporatization	57,9
32	Pannónia Sörgyár Pécs Rt. (Pécsi Sörfôzde Rt)	Valéria GmbH	1993	Beverages	1.630.448	*510.000*	510.000	Corporatization	33,8
33	Gyôri }tépítô Kft.	BAU-HOLDING AG	1993	Road construction	1.917.120	*491.530*	491.530	Corporatization	...
34	Petôházi Cukoripari Rt.	AGRANA	1997	Food	4.770.945	*365.600*	426.732	Sale	9,4
35	NYIRBAU }tépítô Kft	BAU-HOLDING AG	1991	Road construction	929.133	*422.000*	422.000	Capital increase	...
36	Hegyeshalmi Kavicsbánya Kft	ALAS KIESWERKE GmbH	1992	Quarrying	322.306	*427.970*	415.000	Corporatization	95,0
37	Basalt Középkô Kôbányák Kft.	BASALT AG	1992	Quarrying	290.087	*100.220*	406.400	Corporatization	28,6
38	ARBAU Kft.	BAU-HOLDING AG	1990	Construction industry r	946.267	*404.000*	404.000	Sale	...
39	Országos Érc-és Ásványbányák V.	TERRANOVA GmbH	1992	Mining	...	*400.000*	400.000	Approval only	...
40	Aragonit Mészművek Kft.	CEMPAG Beteiligungs- und Handelsgesellschaft GmbH	1989	Manufacturing	865.760	*391.690*	391.690	Corporatization	...
41	STRABAG Hungária Építô Kft.	STRABAG Österreich AG	1991	Construction	1.270.000	*633.000*	385.627	Corporatization	...
42	Szivárvány Kereskedelmi V.	Leder und Schuh AG	1990	Retail trade	...	*375.050*	375.050	Approval only.	...
43	BRAU HUNGÁRIA SÖRGYÁRAK Rt.	Austrian Breweries International AG	1991	Beverages	5.077.262	*375.000*	375.000	Sale	...
44	Szigma Vállalkozási, Vagyonbefektetési és Kereskedelmi Rt	Pankl-Hofmann AG	1991	Financial services	...	*350.000*	350.000	Capital increase	...
45	Országos Érc-és Ásványbányák V.	TERRANOVA GmbH	1990	Mining	...	*350.000*	350.000	Approval only	...

No.	Hungarian target company	Austrian investor	Date	Sector	Total capital (HUF 1000)	Transaction value (nominal, HUF 1000)	Transaction value (actual HUF 1000)	Type of investment	% share of acquired ownership
46	Felsôtiszai Erdő-és Fafeldolgozó Gazdaság	HAFNER GmbH	1991	Forestry	...	*347.250*	347.250	Approval only.	...
47	Élelmiszerkereskedelmi Rt.	Pankl-Hofmann AG	1991	Retail trade	...	*339.820*	339.820	Corporatization	51,1
48	BRAU HUNGÁRIA SÖRGYÁRAK Rt.	Austrian Breweries International AG	1992	Beverages	5.077.262	*137.000*	308.565	Sale	13,7
49	H-Pannonplast Műanyagipari V.	WIENERBERGER ROHR- und UMWELTTECHNIK GmbH	1990	Manufacturing	...	*306.000*	306.000	Approval only	...
50	Borsodi Sörgyár Rt.	Landerbank	1991	Beverages	8.613.282	*300.000*	300.000	Sale	...
51	Möbiusz Húsipari Rt	Pankl-Hofmann AG	1992	Food	2.269.215	*300.000*	300.000	Sale	22,4
52	Pécsi Épitô Kft.	BAU-HOLDING AG	1990	Construction	513.143	*263.500*	263.500	Capital increase	...
53	Schindler-Ganz Lift Kft.	Schindler Aufzüge und Fahrtreppen AG	1993	Manufacturing	73.877	*255.000*	255.000	Corporatization	75,0
54	GENERÁL Kereskedelmi Rt	SPAR	1991	Trade	1.079.733	*235.130*	253.940	Corporatization	...
55	ELZETT Sopron Zár- és Vasalatgyártó Kft.	ROTO FRANK Eisenwahrenfabrik AG	1991	Manufacturing	634.000	*304.320*	243.456	Corporatization	...
56	Egri Útépitô Rt.	Hamberger GmbH	1990	Road construction	520.648	*240.000*	240.000	Asset sale	...
57	Szigma Vállalkozási, Vagyonbefektetési és Kereskedelmi Rt	Pankl-Hofmann AG	1997	Financial services	915.467	*210.900*	210.900	Sale	24,8
58	BUSZESZ Rt.	Danubia Lebensmittel GmbH	1991	Beverages	3.206.267	*205.000*	205.000	Sale	...
59	Zalaegerszegi Ruhagyár Rt.	Men's Fashion GmbH	1996	Manufacturing	779.283	*240.660*	194.365	Corporatization	...
60	Kiskunlacházi Kavicsbánya Kft.	BASALT AG	1992	Quarrying	158.353	*154.750*	185.130	Corporatization	94,9
61	GENERÁL Kereskedelmi Rt	SPAR	1990	Trade	1.079.733	*175.500*	175.500	Sale	21,8
62	Debreceni Magas, Mély- és Útépitô Rt.	Hamberger GmbH	1991	Construction	615.290	*163.500*	163.500	Sale	...
63	Miskolci Útépitô Kft.	BAU-HOLDING AG.	1992	Road construction	381.723	*158.500*	158.500	Corporatization	106,3
64	Zalaegerszegi Ruhagyár Rt.	Men's Fashion GmbH	1993	Manufacturing	779.283	*118.110*	153.543	Sale	20,4
65	Budai Téglaipari V.	CONFIDES AG	1991	Manufacturing	...	*151.500*	151.500	Approval only.	...
66	AMFORA Kereskedelmi Rt.	Österreichische Länderbank AG	1991	Trade and repair	1.191.854	*150.000*	150.000	Sale	...
67	Autófelszerelési V.	SEMPERIT TECHNISCHE PROD. GmbH	1992	Manufacturing	...	*146.000*	146.000	Capital increase	...
68	DUNAKENYÉR Sütôip.és Ker. Rt.	DUNA Handels und Beteiligungs	1991	Food y	323.000	*145.680*	145.680	Corporatization	...
69	QUALITAL Könnyüfémöntöde	DRUCKGUSS GESELLSCHAFT GmbH	1991	Manufacturing	...	*142.500*	142.500	Approval only	...

No.	Hungarian target company	Austrian investor	Date	Sector	Total capital (HUF 1000)	Transaction value (nominal, HUF 1000)	Transaction value (actual HUF 1000)	Type of investment	% share of acquired ownership
70	Papíripari V.	Mosburger AG	1994	Manufacturing	...	*142.000*	142.000	Approval only	...
71	Artex Nemzetközi Kereskedelmi Rt.	Hemingway Holding AG	1992	Trade	651.967	*122.400*	122.400	Corporatization	51,0
72	Somogy-Zala megyei Téglaipari V.	Ziegelwerke Krainer Gesellschaft GmbH	1995	Construction industry	...	*122.000*	122.000	Approval only	...
73	Országos Érc-és Ásványbányák V.	OMYA GmbH	1993	Quarrying	...	*120.000*	120.000	Approval only	...
74	BHG-Tatabánya Alkatrészgyártó Kft.	ZYTEC GmbH	1996	Manufacturing	86.845	*85.000*	119.728	Corporatization	100,0
75	Basalt Középkô Kôbányák Kft.	BASALT AG	1991	Quarrying	...	*113.000*	113.000	Corporatization	...
76	DUNABAU 43. Álltalános Építöipari V.	Bramac International Anlagenbau und Beteiligungs GmbH	1991	Construction industry	...	*110.000*	110.000	Approval only	...
77	VILATI Automatika V.	ELIN ENERGIEAN-WENDUNG GmbH	1991	Manufacturing	...	*109.800*	109.800	Approval only.	...
78	Széchenyi Nyomda Kft	Österreichische Staatsdruckerei	1993	Printing r	182.251	*109.520*	109.520	Corporatization	84,9
79	Debreceni Magas, Mély- és Útépítô Rt.	Hamberger GmbH	1991	Construction	615.290	*108.900*	108.900	Sale	20,0
80	Élelmiszergépipari Vagyonkezelô V.	ROMETALL	1990	Financial services	...	*100.000*	100.000	Approval only.	...
81	ZALACO Sütô- és Édesipari V.	ANKER BROT	1991		...	*96.600*	96.600	Approval only.	...
82	Szigma Vállalkozási, Vagyonbefektetési és Kereskedelmi Rt.	Pankl-Hofmann AG	1991	Trade	915.467	*79.000*	94.800	Sale	9,3
83	Nyéki Kavics Kft.	Au. J. Lasselsberger Int. Beleiligungsgesellschaft	1993	Quarrying	170.015	*80.880*	91.661	Corporatization	...
84	SZENZOR Tanácsadó Rt.	H.A. Management Consulting GmbH	1991	Financial services	110.101	*90.030*	89.094	Corporatization	90,0
85	MOM Vízméréstechnikai Rt.	Elin Wasserwerkstechnik GmbH	1996	Manufacturing	...	*254.250*	88.400	Approval only.	92,2
86	Miskolci Útépítö Kft.	BAU-HOLDING AG	1992	Road construction	381.723	*88.800*	87.751	Corporatization	...
87	DÉKA Délegyházi Kavicsbánya Kft.	Readimyx Ungarn GmbH	1992	Quarrying	93.868	*63.190*	75.000	Corporatization	89,0
88	Metalloglobus Fémipari És Termelöeszköz Kereskedelmi V.	INFRA	1991	Manufacturing	...	*74.600*	74.600	Approval only	...
89	ORIENT Vendéglátó Rt.	Hemingway Holding AG	1992	Catering	233.050	*71.520*	71.520	Corporatization	...
90	Kelet-Pesti Vendéglátó V.	Hemingway Holding AG	1989	Catering	...	*71.100*	71.100	Approval only.	...
91	Budapesti Lakásépitô V.	Readimyx Ungarn GmbH	1992	Construction industry	...	*70.000*	70.000	Approval only	...
92	Pest-környéki Kôbánya Kft	Hamberger GmbH	1991	Quarrying	316.946	*65.000*	65.000	Capital increase	...
93	Basalt Középkô Kôbányák Kft.	BASALT AG	1993	Quarrying	290.087	*60.900*	64.200	Sale	17,4
94	Kavicsbánya V.	BAU-HOLDING AG	1993	Quarrying	...	*61.000*	61.000	Approval only	...

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95	Debreceni Finommechanikai Rt	RADEL GmbH	1992	Manufacturing	160.000	*120.000*	60.360	Corporatization	75,0
96	NYUGAT Kereskedelmi Rt	Julius Meinl	1992	Retail trade	489.782	*60.000*	60.000	Sale	14,4
97	Magyar Vagon- és Gépgyár	MIBA	1990	Manufacturing	...	*56.400*	56.400	Approval only.	...
98	Ipari Armatúragyártó Kft.	Otto Gur u.Co.	1992	Manufacturing	228.488	*136.730*	53.375	Corporatization	97,9
99	Basalt Középkô Kôbányák Kft.	BASALT AG	1992	Quarrying	...	*50.000*	50.000	Sale	14,3
100	Plibrico Kft.	Plibrico GmbH	1992	Manufacturing	175.944	*46.800*	46.800	Corporatization	90,0
101	Gastron Vendéglátó Rt.	Hemingway Holding AG	1993	Trade and repair	171.064	*40.500*	45.626	Corporatization	...
102	Pest-környéki Kôbánya Kft	Hamberger GmbH.	1992	Quarrying	...	*45.000*	45.000	Sale	17,3
103	Keletmagyarországi Állami Épitöipari V.	VOEST-ALPINE	1991	Construction industry	...	*44.000*	44.000	Approval only	...
104	ORIENT Vendéglátó Rt.	Hemingway Holding AG	1993	Catering	233.050	*43.890*	43.890	Sale	18,8
105	Aragonit Mészművek Kft.	MINERALKONTOR ROHSTOFF HANDELS-GESELLSCHAFT	1989	Construction industry	865.760	*43.150*	43.150	Alapításkor	5,0
106	Pest-környéki Kôbánya Kft	Hamberger GmbH	1993	Quarrying	316.946	*43.000*	43.000	Sale	13,5
107	Röltex Kereskedelmi V	INKU	1991	Trade	...	*42.000*	42.000	Approval only.	...
108	Gastron Vendéglátó Rt.	Hemingway Holding AG	1992	Catering	171.064	*40.000*	40.000	Sale	25,0
109	Budapesti Lakásépitô V.	Universale Bau Wien	1991	Construction industry	...	*39.980*	39.980	Approval only	...
110	Gép-és Felvonószerelö V.	HASLINGER STALBAU GmbH	1991	Manufacturing	...	*39.300*	39.300	Approval only	...
111	VILATI Automatika V.	ELIN ENERGIEAN-WENDUNG GmbH	1990	Manufacturing	...	*36.000*	36.000	Approval only	...
112	BUSZESZ Rt.	Danubia Lebensmittel GmbH.	1992	Beverages	3.206.267	*30.000*	35.412	Sale	1,1
113	Volán Tömegáru És Bányászati Fuvarozo V.	HOLLER TRANSPORT GmbH	1991	Transport	...	*34.400*	34.400	Approval only	...
114	KERMODUL Üzletberendezéseket Gyártó Kft.	Nuevometal GmbH	1992	Manufacturing	307.121	*30.000*	30.000	Corporatization	...
115	BRAU HUNGÁRIA SÖRGYÁRAK Rt.	Austrian Breweries International AG	1992	Beverages	5.077.262	*26.000*	26.000	Sale	2,5
116	DUNAKENYÉR Sütöip.és Ker. Rt.	DUNA Handels und Beteiligungs	1991	Food	323.000	*25.000*	25.000	Sale	7,7
117	Erdökémia Vegyipari Rt.	KREMS CHEMIE	1995	Manufacturing	...	*25.000*	25.000	Approval only	...
118	Duna Élelmiszer és Vegyiáru Kereskedelmi V.	OMNIPEX GmbH	1991	Trade	...	*25.000*	25.000	Approval only	...
119	Pest megyei Fémipari V.	POLITECHNIKA AUSTRIA	1991	Manufacturing	...	*25.000*	25.000	Approval only	...
120	Hegyeshalmi Kavicsbánya Kft	ALAS KIESWERKE GmbH	1994	Quarrying	322.306	*22.530*	22.530	Sale	5,0

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121	Schindler-Ganz Lift Kft.	Schindler Aufzüge und Fahrtreppen AG	1995	Manufacturing	73.877	*85.000*	20.000	Sale	25,0
122	Kavicsbánya V.	BAU-HOLDING AG	1993	Quarrying	...	*18.400*	18.400	Approval only	...
123	Kaposvári Ruhagyár Rt	TEXMA Textilmaschinen GmbH	1991	Manufacturing	580.775	*17.640*	17.640	Sale	5,6
124	Békés megyei Állami Épitöipari V.	CHARLES MCFEREN	1991	Construction industry	...	*17.100*	17.100	Approval only	...
125	Budai Téglaipari V.	FENEBERG	1991	Manufacturing	...	*16.500*	16.500	Approval only	...
126	Rath Mim Száltechnika Kft	Aug. RATH Jun. AG	1993	Manufacturing	39.540	*13.800*	13.800	Corporatization	50,0
127	DUNABAU 43. Általános Építöipari V.	STRABAG Österreich AG	1991	Construction ind.	...	*13.000*	13.000	Approval only	...
128	Club Tihany Rt.	KALMAR-HUSE	1988	Hotel ind.	766.755	*12.850*	12.850	Sale	2,8
129	ERGONETT Ipari, Kereskedelmi és Szolgáltató Rt.	FRIEDRICH WILHELM GmbH	1992	Trade	-50.004	*12.700*	12.700	Capital increase	...
130	ERFATERV Kft	FMW Förderanlagen und Maschinenbau GmbH	1992	Construction industry	21.899	*38.840*	11.052	Corporatization	78,6
131	Mosonmagyaróvári Fémszerelvény Rt.	Swiag	1993	Manufacturing	2.734.840	*19.200*	11.000	Sale	1,8
132	VIZÉP Mélyépítô Kft.	Leithänd Hasemöbel und Krizek GmbH	1994	Construction	198.204	*8.340*	10.877	Sale	6,0
133	Club Tihany Rt.	Hamberger GmbH	1988	Hotel ind.	766.755	*10.090*	10.090	Sale	2,2
134	Club Tihany Rt.	Negrelli Bau AG	1988	Hotel ind.	766.755	*9.611*	9.611	Sale	2,1
135	Thermál Hotel Aquincum Kft.	Hafina Bau GmbH	1994	Hotel ind.	3.925.289	*7.698*	7.698	Sale	0,7
136	DÉLKER Rt.	GFG Import HandelsGmbH	1990	Trade	616.495	*6.000*	6.000	Sale	...
137	Csôszerelôipari V.	Weiss Technik GmbH	1993	Construction industry	...	*5.963*	5.963	Approval only	...
138	Plibrico Kft.	Plibrico GmbH	1996	Manufacturing	175.944	*5.200*	5.200	Sale	10,0
139	Grabocenter Szolgáltató és Vagyonkezelô V.	Creditanstalt	1992	Other services	...	*5.000*	5.000	Approval only	...
140	Közlekedési és Metró Építô V.	NEUE REFORMBAU GmbH	1992	Construction	...	*5.000*	5.000	Approval only	...
141	Szigma Kereskedelmi Rt.	Pankl-Hofmann AG	1990	Trade	194.500	*5.000*	5.000	Sale	2,7
142	Szigma Kereskedelmi Rt.	Pankl-Hofmann AG	1989	Trade	194.500	*5.000*	5.000	Sale	3,1
143	Transtank Nemzetközi Tankautó Fuvarozási Kft.	MINERALKONTOR ROHSTOFF HANDELS-GESELLSCHAFT	1992	Transport	159.315	*3.300*	3.300	Sale	2,0
144	MOM Vízméréstechnikai Rt.	Elin Wasserwerkstechnik GmbH	1996	Manufacturing	229.500	*7.478*	2.600	Sale	2,7

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145	D&M Ipari és Kereskedelmi Kft	Karl Dittrich GmbH	1992	Trade	3.299	*2.100*	2.100	Corporatization	70,0
146	Adler Rapid Kft.	Adler Tibor	1994	Manufacturing	4.500	*1.350*	1.350	Corporatization	30,0
147	FERROMETÁL Öntödei Anyag Kereskedelmi Kft.	Erich Barth GmbH	1992	Manufacturing	...	*1.250*	1.250	Sale	1,6
148	Semperit Kaucsuk Kft	Semperit AG Holding	2000	Manufacturing	3.242	*180*	838	Sale	24,0
149	GASZTROTECH Jav. és Szolg Kft	Rega-Wien Wielfrid Lange,	1994	Manufacturing	2.100	*600*	600	Corporatization	...
150	Kiskunlacházi Kavicsbánya Kft.	BASALT AG	1993	Quarrying	158.353	*100*	119	Sale	0,1

Note: 1 Euro = 250 HUF, Historiacal rates cca.: 1 ATS = HUF 13 (1995), 14 (1996), 17 (1998), 19 (2000)

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Hungary and EU Eastern Enlargement

Thursday, June 6, 2002, 9 a.m. – 7 p.m.
OeKB, Österreichische Kontrollbank AG (*Reitersaal*)
Strauchgasse 3, A-1010 Vienna

Conference Program

8:00 a.m.	Registration
9:00 a.m.	Welcome and Opening Remarks: Bernhard Felderer (Director of IHS)
9:15 a.m.	Chair: Helmut Frisch (Technical University, Vienna) Gábor Oblath (Institute for Economics, Market Research and Informatics, Budapest) and Sándor Richter (WIIW, Vienna): *"Competitive Positions and Sectoral Growth of the Hungarian Economy"* Discussant: Erhard Fürst (Federation of Austrian Industry, Vienna)
10:00 a.m.	Chair: Bernhard Böhm (Technical University, Vienna) Karoly Fazekas (Hungarian Academy of Science, Budapest): *"The Hungarian Labour Market"* Discussant: Helmut Hofer (IHS)
10:45 a.m.	Coffee break
11:30 a.m.	Chair: Bernhard Böhm Zoltan Török (Raiffeisen Securities and Investment, Budapest): *"Capital Markets and EU Convergence"* Discussant: Harald Stieber (University of Klagenfurt)
12:15 p.m.	Chair: Bernhard Böhm Julius Horvath (Central European University, Budapest): *"The Financial and Banking System"* Discussant: János Kun (Budapest)
1:00 p.m.	Buffet Lunch at the Conference Venue
2:30 p.m.	Chair: Helmut Frisch Judit Neményi (Financial Research, Budapest): *"Fiscal Policy and Government Debt"* Discussant: Kurt Bayer (Ministry of Finance, Economic Policy Department, Vienna)
3:30 p.m.	Chair: Bernhard Böhm Peter Mihályi (Central European University, Budapest): *"Reform Policy and New Institutional Developments"* Discussant: Gerhard Hanappi (Technical University, Vienna)
4:30 p.m.	End of Conference

Editors: Bernhard Felderer, Helmut Frisch, Bernhard Boehm

Title: Hungary and EU Eastern Enlargement

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