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## Competitiveness – 2015, vision and tasks<sup>1</sup>

**I**mproving competitiveness is regarded also by the European Union as a pivotal issue. The Council of Europe, the highest political decision-making body of the European Union, reached a resolution in its Lisbon Strategy in 2000 to develop Europe into the most competitive and most dynamic knowledge-based economy in the world in ten years, an economy that ensures substantial growth by providing her citizens with more and better jobs and a stronger social cohesion (EC, 2000). This objective has proven to be unrealistic and unattainable. Two years later the European Union clarified the concept (EC, 2002), then the strategy was renewed (EC, 2005) after the interim assessment (the Kok Report, 2004). The strategy of the European Union now focuses on economic growth, the bolstering of employment, and the expansion of knowledge-based (innovation-driven) competitive economy.

### STATUS QUO

Regarding the level of Hungary's competitiveness, lots of information are available, which, however, are often contradictory. Among the country reports that analyse a number of competitiveness components, the one published by Swiss IMD is well known. IMD's synthetic competitiveness index comprises economic

performance, efficacy of the administration, business efficiency, and infrastructure status indicators.<sup>2</sup>

In 2006, Hungary owned a much less favourable position in the worldwide competitiveness ranking than in 2000, having fallen even in the group of 27 European countries (see Table 1).

Hungary's position loss is explained on macro-level by low employment, and high deficits in the balance of payments and public finance predominantly. In respect of significance, they are followed by an unsatisfactory level of business efficiency, referring to factors such as low social sensitivity of business leaders; general mistrust toward managers; neglect of customer interests; insufficient recognition of the necessity of economic and social reforms; and the lack of reforms. The most prominent weak points in the third group of factors, describing government control, are: unfavourable effects on economic growth generated by the central bank's policy; high personal income tax; heavy public burdens on wages; adverse impacts of exchange rate policy on competitiveness; high budget deficit; inconsistency and low level of transparency in the government's policy. In the scope of infrastructure, problem areas that hinder the improvement of competitiveness include health care infrastructure; the performance of higher

Table 1

**HUNGARY'S COMPETITIVENESS RANKING**

	51 countries	27 European countries
2000	27	17
2001	30	17
2002	30	17
2003	30	16
2004	35	19
2005	32	16
2006	35	20
Change, 2000–2006	–8	–3

Source: IMD World Competitiveness Yearbook, 2000–2006, Lausanne

education; postponement of renovation works; asset management; low penetration rate for computers and the Internet. On the other hand, advantages in competitiveness include a comparatively low corporate tax; a high-performance stock market; considerable foreign direct investments; and a dense network of public roads.

The World Bank's database *Doing Business* ranks the competitiveness of countries by their business environment. Compared to 22 European economies, the time to set up a company is long in Hungary, the related costs and capital requirements are high (which means that a large amount has to be deposited prior to company registration). The costs and time requirements of real estate transfer are high, and the costs to secure the collateral required for borrowing are exceptionally high. Hungary is very badly positioned in respect of both the information content and customer base of the debtor records. The termination of enterprises takes a medium amount of time in Hungary. On the other hand, the indicator measuring the flexibility of employment depicts a very favourable position, as Hungary is found in the upper third of the list (along with the Czech Republic, Poland, and Slovakia) as opposed to most EU-15 countries.

The development of Hungary's cost-competitiveness position is described by three relatively well-separated stages:

▶ Between 1990 and 2000, the growth of labour productivity recorded higher than that of most CEE countries; real wages (real labour costs) increased slower.

▶ Between 2001 and 2003, labour costs (i.e. real wages) increased incredibly fast (by one-third roughly), reducing the Hungarian economy's competitive advantages against both the EU-15 and the rest of Central and Eastern Europe.

▶ In this regard, the economy's return to a sustainable path started in 2004–2005 as unit labour costs dropped at national economy level.

Nevertheless, the level of unit labour costs<sup>3</sup> has not been high in Hungary: Compared to the EU-15 median, it was 38 per cent in 2000, and 47 to 48 per cent in 2003. Cost-competitiveness was also supported between 1990 and 2000 by the forint as it was easing against key currencies. However, the forint's real exchange rate has been strong since 2001 (See Table 2).

The decisive majority of the output and exports of the Hungarian processing industry has a relatively low sensitivity to foreign exchange rate changes. The reason for this is what is called a natural hedge position, which means that the local-currency value of export sales and high volume of materials usage (imported predominantly) change hand in hand with the forex rate, thus having a lesser

Table 2

**REAL APPRECIATION OF THE FORINT**

(percentage)

	HUF/EUR forex rate index	Hungarian consumer price index	EU-15 consumer price index	Real- appreciation
2003	104.3	4.7	2.0	-1.6
2004	99.3	6.8	2.0	5.2
2005	98.1	3.6	1.9	3.5

Source: GKI Zrt. (Economic Research Institute Co. Ltd.); Calculations based on NBH and Eurostat data

impact on profits. Wages (or other domestic resources), however, are sensitive to foreign exchange rate changes. This is a significant factor in certain industries, such as services exports (tourism), agricultural or food industry output, construction industry, and, in another cross-section of GDP, the activities of small and medium enterprises in general. (Gács – Halpern, 2005).

*As for gross domestic product, a steep growth of the Hungarian economy and its convergence to the European Union have been apparent since the mid-'90s.*

Out of the eight new EU member states from the former Eastern Bloc, Hungary's convergence pace was relatively slow between 1995 and 2000, then it accelerated. From 2000 to 2005, the other countries embarked on a

dynamic convergence, except for Poland. Hungary's development level took third spot all through 1995 to 2000, trailing behind Slovenia and the Czech Republic, but it was closing in on the Czech Republic, far ahead of Slovakia and Poland. Regarding the entire period and considering the initial development levels, Hungary – along with Slovenia – could boast a definitely dynamic convergence process in the group of Central European economies (See Table 3).

In the past ten years, GKI Zrt. [Economic Research Institute Co. Ltd.] has repeatedly measured companies' opinions about the competitiveness of their products and services, taking the configuration, quality, design and primary packaging into account as a whole. The ratio of products and services that were com-

Table 3

**PER CAPITA GDP AT PURCHASING POWER PARITY**

	1995	2000	2005	Pace of convergence (percentage points)		
				EU-15 = 100 per cent	1995–2000	2000–2005
Czech Republic	67	58	67	-4	9	5
Estonia	30	37	51	7	14	21
Poland	37	43	46	6	3	9
Latvia	27	32	43	5	11	16
Lithuania	31	35	46	4	11	15
Hungary	44	48	57	4	9	13
Slovakia	40	43	50	3	7	10
Slovenia	62	67	75	5	8	13

Source: Eurostat

petitive even in developed countries had grown to 50 per cent by 2003 from one-third recorded in 1997, while the rate of products uncompetitive in developed countries had fallen below 20 per cent by 2003 from 45 per cent in 1997. According assessment by corporate managers, the competitiveness of Hungarian businesses improved considerably in the period surveyed.

Regarding the percentage of products and services that are competitive in developed countries, those offered by Hungarian corporations with foreign majority are outstandingly high; these responders assessed 70 per cent of their sales in 1997, 80 per cent in 2000, and 90 per cent in 2003 as such. In the state-owned corporate sector, the corresponding figures were 31 per cent, 26 per cent, and 23 per cent, respectively, indicating regression. The rates for domestic private companies recorded 40 per cent, 42 per cent, and 45 per cent, respectively, indicating slow improvement. Large corporates employing more than 300 staff reported of a little higher ratio of competitive products and service than medium and small enterprises did. Among the sectors of the national economy, industry has been the definite positive exception, which comes as no surprise since this sector has been in direct relation with external markets. As for negative results, companies in the transportation sector have always pioneered in recent times.

Companies where the proportion of exports<sup>4</sup> record high, more than 50 per cent, the rate of competitive products and services register a high level between 70 and 80 per cent on the basis of managers' opinions. Economic entities that are active exclusively on the domestic market also assess themselves relatively favourably, recording 40 per cent in 1997, 38 per cent in 2000, and 43 per cent in 2003 for competitive products and services.

Corporate opinions also show that the Hungarian economy is differentiated in all aspects, including competitiveness. Pioneers

are foreign-owned multinational corporations, major exporters, and their domestic suppliers. They play eminent roles in exports, investments, human capital investments, and have increasing importance in corporate research and development. The decisive majority is engaged in high-productivity and technology-intensive industries or services (vehicle production, information technology manufacture, telecommunications, equipment manufacture, pharmaceuticals, financial services, logistics, commerce, etc.). This scope is sensitive to the economic situation in Europe, especially in Germany, and the short-term fluctuation in the Hungarian economy's growth is indeed attributed to this fact at a substantial extent, but, due to its competitive leverage, it reflects a much lower rate of output fluctuation than their parent companies (or home countries) do.

Hungarian micro businesses or small and medium enterprises, however, failed to get stronger in large numbers, especially those oriented to the domestic market solely. These enterprises struggle with a constant lack of assets and most of them run large debts; are managed at a low technological level with poor human resources and poor management; fail to implement innovations; and their business relations are casual not only with international companies but with domestic ones. There indeed are successful small businesses with outstanding performance, but they are typically unable to increase their size at a considerable rate. They expect larger support from the state, but funds are scarce and they are used with very low efficiency. The regression is typical of entire industries as well (shoe industry, textile and clothing industry, certain food industry sectors, and agriculture) and is evident in certain geographical regions (mostly in Northern Hungary and in the Plains [a region between the rivers Danube and Tisza] where the density of business is low with an unfavourable industrial structure). At least 25 per cent of agricul-

tural output is produced in uncompetitive facilities. This affects a larger scope of the population than its economic weight would indicate, thus the status of the sector represents a source for social and political tensions, particularly in regions and towns where other sectors are not developed, either.

Permanent market player SMEs' poor ability to grow is attributed to their slower-than-average modernisation pace.<sup>5</sup> Nowadays, it does not mean development only: "Modern" corporations are giving more and stronger indications that sources for labour with appropriate training have been exhausted and Hungarian labour is getting increasingly more expensive.

Innovation abilities also differ greatly in the Hungarian economy. Corporate spending on research and development is low, while most of the public sector's R&D activities have so far failed to be put to good use for the benefit of economic development and social well-being. The country's performance in innovation is poor. Hungary has failed to make progress in developing information society.

*The slow speed of infrastructure development* (in respect of motorway construction, modernisation of railways and city transportation, and the upgrading of healthcare and education

institutions mostly) *acts as an obstacle to social and economic progress.* This situation is made all the more critical by the paradox typical of Hungary (and Central and Eastern Europe from a wider angle) that a relatively abundant supply of foreign capital is coupled with the state's acute capital shortage.

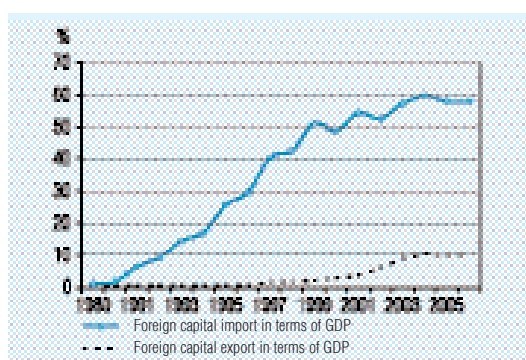
*The high deficit and unfavourable structure of Hungary's public finance calls for urgent reforms.* It is necessary to reduce the level of expenditures of public finance and change their structure, and also to modernise the system of taxes and contributions. In addition to reforming the major redistribution systems, enhancing the competitiveness improving function of public administration is also a priority.

The influx of foreign direct investment, which started in the early '90s and has been at a consistently high level ever since, has provided remedies for many illnesses on macro- and micro-economic level. The reinvested profits of incumbent corporations have permanently recorded higher than fresh capital influx. And international activities of Hungarian capital have been picking up, but the portfolio is substantially smaller than that of foreign capital in Hungary.

With the increase of foreign capital portfolio, foreign equity earnings (generating no pub-

Chart 1

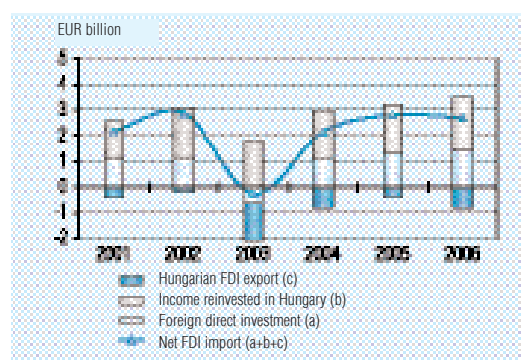
**FDI IN PERCENTAGE OF GDP**



\*In 2003, a transaction between a major parent company and its affiliate caused the decline  
Sources: UNCTAD, NBH, KSH [Hungarian Statistical Office], and GKI Rt. forecasts from 2005

Chart 2

**INFLUX, REINVESTMENT, AND OUTFLOW OF FDI\***



lic debt) realised in Hungary have now reached 5 to 6 per cent of GDP and account for the decisive bulk of current account deficit. Roughly half of these incomes are reinvested in Hungary (a very favourable ratio), the other half is transferred abroad, either openly or in a concealed manner (see *Charts 1 and 2*).

*The competitiveness position of Hungarian businesses is also contradictory: With Hungary's EU accession, competition has intensified for a good many Hungarian companies, often leading to loss-making operations; factory shutdowns have mushroomed; unemployment has risen slightly. On the other hand, competition is extremely poor in the Hungarian market of certain community services (including central [remote] heating, cable television, postal services, railway transportation, road passenger transport, city passenger transport, etc.) and also in major community supply systems.*

The position of production factors also shows contradictions. The competitiveness of labour (its training, discipline, creativity, and comparative cheapness) has so far been a considerable advantage, but problems have accumulated by now and manifested themselves in a concentrated form. This is also indicated by the fact that the inactive workforce within the working-age population is concentrated among poorly educated workforce, and also in

certain geographic regions and ethnic groups, but no changes have occurred in this scope due to a low level of mobility and other problems. Inactivity is high, official unemployment and employment both are low, indicating a substantial grey/black economy (which is estimated to be as high as 20 per cent of Hungary's economy). *In Hungary, knowledge, the most important production factor of the 21<sup>st</sup> century, has been developed at an inadequate rate, and it has already become evident as a disadvantage.*

Major international comparisons indicate a continuous devaluation of the Hungarian public education. In a few years after the political transformation (between 1989 and 1992), a general improvement in the qualification level of the entire workforce emerged in the Hungarian labour market encompassing all age groups, but the leverage of higher qualification vanished when market institutions became firmly established and new technologies emerged.

On the international map of universities, hardly any Hungarian institutions of higher education are to be found. Hungarian universities are unable to compete even with EU institutes, and it is doubtful whether any of them will be able to gain regional significance. At the same time, the number of students in higher

Table 4

**HUNGARY'S INFRASTRUCTURE POSITION**

Infrastructure areas surveyed	Hungary's position			
	relative to 39 market economics		relative to 15 transition countries	
	1990	2000	1990	2000
Infrastructure as a whole	29	29	6	6
Transportation	24	26	9	9
IT, telecommunications	32	29	2	4
Education, culture	20	22	6	3
Health care	26	28	9	7
Environment protection	32	31	9	12

Source: Ehrlich, 2005

education has grown by 450 per cent in the past fifteen years. Experts agree that this kind of increase has become an unhealthy process that threatens equilibrium, because mass education generates lower quality. There is an oversupply of Bachelors of Arts, economists, and lawyers, while there is a shortage of engineers, health care experts, and double-qualification professionals.

Among the member states of the European Union, currently Hungary has the lowest ratio of citizens who speak at least one foreign language, and it is also Hungary where the fewest speak English, the most prominent language of communication. This low level of language proficiency directly affects the country's economic performance.

The flow between the structure of vocational training and the dynamic changes in the demands of the labour is slow: Trainings are operated still that ensure nothing but unemployment for the trainees, while in other areas training is unable to keep up with the demand. In the Hungarian labour market, an oversupply of both unqualified and overqualified (or misqualified) workforce is present simultaneously.

In the scope of infrastructure, Hungary is way behind in spite of very significant developments in certain areas (see *Table 4*). Based on a survey focusing on 54 countries, Hungary's relative position regarding infrastructure as a whole did not change between 1990 and 2000.<sup>6</sup> Her rating improved in the scope of information technology and telecommunications as well as environment protection, but the rest of the areas recorded degradation. As for her position relative to transition economies, it was IT and telecommunications and environment protection that fell lower in the ranking, but transportation and both humanities infrastructure areas retained their respective positions.

Since 1990, new technologies in information technology and telecommunications have spread in Hungary too with an explosive force.

The market of landline telephony reached the status of saturation at a lower level than typical of developed countries, but the progress of mobile telecommunication has kept up the pace with other developed countries. As for the Internet, it's an ambivalent situation, because even though a number of government projects (Sulinet [promotion of information society], "telehouses" [community centres with Internet access]) have been aimed at improving Internet access and content, but Internet penetration is, in international comparison, still below the desired level. One of the main reasons for it, apart from a low demand which is obviously driven by other factors as well, is the high costs of Internet access. The liberalisation and privatisation of the telecommunications sector has been something of a disappointment, because prices have not fallen at the expected and desired rate, because market players failed to start a bona fide competition.

The total of Hungary's energy consumption has not increased since the political transformation, indicating efficiency improvement in line with GDP growth. International comparisons, however, attest to a low energy efficiency for the Hungarian economy, with the exception of processing industry, and it certainly is a disadvantage in competition (unit energy consumption is nearly three times as high as the average of the EU-15).

Regarding per capita pollution emission, Hungary is better positioned than the EU average, but falls behind EU requirements and practice in certain areas of environment protection (e. g. disposal and treatment of sewage, waste disposal and treatment, etc.).

The frequent lack of real competition would be hard not to be linked to the sluggishness of innovation activities in Hungary. International comparisons regularly highlight two problems in the Hungarian innovation system. Firstly, fundamental research has a high financing ratio, relegating applied research and experi-

mental development; and, secondly, the extent of corporate R&D is very low.

However, Hungarian companies controlled by multinational corporations usually follow international trends by constantly taking over sophisticated technologies in the vehicle industry, heavy chemical industry, electricity industry, in electronics components production, and in some segments of food industry. In certain sectors, including lighting device manufacture and road vehicle components manufacture, first-rate R&D activities are coupled with immediate implementation of results. In some other profiles, including various other companies in consumer electronics manufacture or road vehicle production and some of the plastics vehicle components suppliers, the adoption of the parent companies' foreign development results has generated not only successful but intensifying development at the Hungarian affiliates. In a number of market segments, for example in some areas of medical instruments manufacture, software industry, and certain biotechnology segments, Hungarian SMEs also deliver excellent performance. Running intensive research activities, the pharmaceutical sector is also innovative and successful.

Innovation is considerably scarcer at most of the companies with little or no access to external markets or foreign capital than at their competitors. Research is rare in the SME sector, and even rarer is the purchase of research results.

Interaction with the “science-industry” are scarce or entirely nonexistent, there are hardly any indications for an intensification of regional cooperation or a development of clusters. Particularly unfavourable is the situation in certain agricultural sectors and major public services, including education, health care and public administration. The cooperation between the MTA [Hungarian Academy of Sciences] and higher education and business or state users is inefficient.

## TRENDS OF GLOBAL POLITICS AND ECONOMY WITH A VIEW TO THE YEAR 2015

Constituting the global backdrop to competitiveness, trends of global politics and economy with a view to the year 2015 are regarded by the authors as follows:

Global output was concentrated in three main regions at the millennium: The United States accounted for 31 per cent, the EU-25 held 26 per cent, Japan and China recorded 27 per cent combined. However, the combined population of these regions accounted for no more than 36 per cent of the world population. Economic power will likely shift to the Asian region, while poorer yet strategically important areas of the world will be recipients of economic benefits at a lesser extent only. Russia's economic and political weight is expected to increase compared to 2005. Tensions in global politics will intensify slightly by 2015.

Security is the main problem for global politics. Currently, the United States is the singular superpower, with no real counterweight. At the same time, challenges of world politics (terrorism, energy security, religious fanaticism, ethnic conflicts, etc.) manifest themselves increasingly as regional problems, and so far the developed world has proven to be vulnerable to them. Issues related to environmental sustainability continue to be on the agenda of global politics, but they are not expected to intensify.

In respect of economic regard, the gap between North and South (rich and poor) represents the major global challenge. The greatest problem in developed societies is the compulsion of public finance reforms and labour import due to an ageing society and the consequent surge in healthcare expenses. The source of this labour influx typically originate in flexible (mobile) social strata of poorer countries with cultures dissimilar to the host countries'.



Developed countries will strive to adopt educated strata, but this will act also as a source for tensions in the long run. Migration and consequent – but partially unrelated – ethnic differences are and will be a problem for Europe as well.

It's a small wonder that interoperability has become the multi-purpose catchword of ever-increasing network systems. In the worldwide commercial, economic, scientific, and media space, mutual benefits stem from interlinked systems, but these benefits do not manifest themselves automatically; they are created by communication processes. By the early 21<sup>st</sup> century, proficiency in the English language has undoubtedly become essential for being able to connect to the international artery of knowledge and transactions. A lot of countries realised this requirement and have for some time made conscious efforts for their population to become de facto bilingual and reach a 100-percent, high-level English proficiency as soon as possible.

There seems to be no realistic chance for a radical improvement in the position of the European Union. The United States will likely be able to produce a fast-paced progress supported by powerful R&D and innovation, and China is apt to put in outstanding economic growth. China not only increases its economic significance at a steep rate, but, due to her cheap and trained workforce, presents a considerable competition challenge regarding costs to European countries, Hungary included. In addition, China has been on a heavy commercial offensive. Compared to the European Union, the USA has been participating more actively in the work of new R&D and innovation centres that are being established in the Pacific area (e.g. in China, India, and South Korea). Expected processes compel Hungary's economic policy to reconsider how the country could integrate better, and preferably directly, into a globalisation-fuelled world market.

Examining the factors of competitiveness as to their dynamism, an intensifying shift toward the knowledge sector is what defines the perspective most. A recent OECD study<sup>7</sup> defines “*entrepreneurship, information and communications technology, innovation and human capital*” as the critical key policy areas of growth and productivity. Published in October 2005, a study by the World Bank<sup>8</sup> takes a similar stand: The Primary “sector” of growth is the knowledge economy where growth is subject to “*investments into education, innovation, information and communication technologies, and also into a helping environment of economy and institutions*”. To put it differently, competitiveness retention is not possible without transition to knowledge-based economy, and securing leverage in competitiveness increasingly depends on the performance of knowledge economy.

Europe is not in a favourable position; the old continent is gradually losing space relative to the other two major hubs of global economy (the USA and the Pacific territory of Asia) in the race in global education, research, technology, innovation and content industry.<sup>9</sup>

Explanations are spread in a wide scope. Certainly, the performance of European public education is waning, and amounts spent on research and development are permanently lower than those of rivals; and a gap has opened in the past 10 to 15 years and become wider. Most recent analyses<sup>10</sup> add that Europe's relatively low growth is strongly related to low investments in higher education as well (EU: 1.1 per cent, USA: 3 per cent in terms of GDP).

Investments into research have been rising: Worldwide spending on research and development could reach USD 1,000 billion in 2006.<sup>11</sup> Asia's indicators are rising dynamically, projecting a degradation in the USA's leading position and a simultaneous increase in the European Union's lag.

## HUNGARY'S ECONOMIC POLICY VISION, 2015

In light of the global framework described above, the growth possibilities of the Hungarian economy may be outlined as follows:

If the positive scenario is assumed that Hungary's potential economic growth is approximately 2 percentage points higher than that of the European Union, then Hungary will take 10 to 15 years to reach the EU's current median development level, and 15 to 20 years to achieve 75 per cent of the EU's average development level of the time. Only a slow progress can be made in the “new” and “modified” (mostly human) factors of competitiveness. It remains to be seen what Hungary's current leverage in competitiveness (early political and economic transformation; fast-paced privatisation; structural reorganisation and reforms; cheap, comparatively trained, disciplined and resourceful workforce) will be sufficient for in a changing set of global economic conditions.

In the period ending in 2010, the main direction of Hungary's economic policy is defined by efforts to improve equilibrium: The convergence programme. There is no viable alternative to public finance modernisation, radical reduction of its deficit, and the euro adoption.

The growth of exports is basically subject to the economic position of the European Union on the demand side; on the supply side, it is

dependant on the performance of production/services companies (mostly foreign-owned). The acceleration of investments are also fuelled by heavily expanding EU development funds. Investment funds originating from this scope will amount to three to four per cent of GDP, and the net financial transfer, which accounts for Hungary's contribution as well, will be 2 to 3 per cent of GDP.

Hungary's progress on the convergence path is subject to foreign direct investment even in the medium term. One of the conditions of economic growth is to retain export potential, for which the presence and expansion of foreign capital is essential. According to our calculations, the Hungarian economy needs at least EUR 2 billion of new foreign direct investment on average per annum in the next 15 years, and not only in the processing industry, but in health care, education, real estate sector, etc. Therefore, capital attraction shall be ensured. FDI influx also amounts to 2 per cent of GDP approximately.

Hungary's competitiveness after the millennium has not been decided by a low level of wages predominantly. The level of training of Hungarian labour, as well as cheap primary and secondary training, are an important advantage in Hungary's competitiveness, but labour in Hungary nowadays is much more expensive than in some of the neighbouring countries. Productivity, creativity, knowledge, discipline, and adaptability are key issues, complemented

Table 5

### CERTAIN INDICATORS OF THE LIVING STANDARDS OF THE POPULATION

(annual average growth rate, per cent)

	2000–2002	2003–2005	2006–2015
Real wages	6.4	4.7	1.5–2.5
Real value of pensions	5.6	5.0	0.5–1.5
Household consumption	6.7	4.7	2–2.5
Net savings ratio* (annual average)	4.6	1.8	4–6

\* As a percentage of GDP

Source: KSH, GKI Rt. forecasts since 2005

by changes in currently low mobility, which of course have infrastructural requirements.

The adoption of the euro is one of the priorities in the economic race in the CEE region. Entry to the euro zone is an essential interest for Hungary; a continuation of the political and economic integration process. If Hungary's entry to the euro zone suffered a delay, the country would have to live for a good many years with competition disadvantages stemming from the national currency, including the costs of exchange rate fluctuations and debt management. All this would represent measurable disadvantages in investments, employment, and economic growth.

The most critical requirement among the euro adoption criteria is the reduction of public finance below 3 per cent of GDP. By a serious political commitment, this could be achieved by 2008–2010. In this case the inflation target is attainable, and exchange rate stability is not threatened, either. The forint's exchange rate against the euro will probably be defined by the market price valid at the date of the euro adoption. In the event of meeting the criteria related to public finance deficit and public debt, the target for long-term interest rates is also met.

Competitiveness definitely requires that the consolidation of public finance be implemented as soon as possible. If Hungary's GDP growth exceeds the EU average first by one percentage points annually (in the course of adjustment) and by two percentage points subsequently, then real wages and consumption will not be rising at the beginning of the adjustment period, but subsequently they will grow slower than the GDP but still 0.5 to 1.5 percentage points faster than the EU average. This path will be able to finance social cohesion, but it will not ensure spectacular or fast results. In the next decade, an economic policy that focuses on this sustainable growth in the long run should be ensured.

The dynamism of real wages in the private sector is capped by the productivity growth rate of the national economy; and in the public sector it is limited by the necessity of public finance deficit reduction. Taxes and contributions on wages will be rising slightly until 2010. The planned streamlining of public administration reduces the total of wages in the public sector. Hence, real wages will be dropping by 2 per cent on annual average in the period surveyed (*see Table 5*).

The real value of pensions could be increased by 0.5 to 1.5 per cent on average each year (but the entire pension system should be reconsidered because of steps that have been made since 1998 and deteriorated the balance of the pension system further). Retirement age will most likely have to be raised, the rules of registration for the disabled altered, and the necessary indexing modified.

Social benefits that are outside the scope of pensions (family allowance and other income supplements) will increase. The combined real value of family benefits and tax allowances will rise by 2 per cent annually, while benefits and tax allowances will be rearranged to be given to families with low or no income. After the reforms are implemented in the social systems, social strata with the highest income will not be granted such income supplements.

In the next ten years, household consumption will be growing dynamically by 2 to 2.5 per cent each year, yet at a lower rate than the average GDP growth.

## SCENARIOS

*Various development paths of the Hungarian economy for the next ten years are described here by using four scenarios built on the analogy of a sailboat trying to catch up with the pack in a sailing race. "Winds" are represented by global economic conditions and the status of the "boat" is*

*described by domestic, internal developments. In the latter, an earlier or later date for euro adoption is a significant factor.*

Scenarios A and C describe a favourable internal backdrop for the Hungarian economy, while scenarios C and D presume less favourable internal conditions. In Scenarios A and B, internal conditions are favourable, while Scenarios C and D assume less favourable internal environments.

### Calm seas, renovated boat

Scenario A – when seas are calm and the boat has been renovated – is a variation of a relatively fast-paced and balanced growth, which assumes an improving global economic environment and a dynamic progress for domestic structural reforms at the same time.

Economic growth in the United States is permanently dynamic, creating favourable conditions for the European economy as well. Globalisation processes advance, the economic power of China and India grows further, their relations with both the USA and Europe are harmonic, based on mutual benefits. World trade expands fast. Oil prices drop even in the short term, the security of energy supply increases, promoting the development of global economy.

An intensifying global competition prompts corporations in the European Union to transfer an increasing amount of physical and white-collar jobs, because cheap and increasingly trained labour in fast-developing Asian countries represents a competitiveness factor at a growing rate. Expansion in knowledge-intensive jobs amply offsets this migration, because it also promotes a stronger influx of cheap, well-trained workforce to developed countries (intensifying bi-directional flow of high-tech knowledge). This considerably modifies work processes, and all in all makes foreign trade, investment and labour market processes livelier.

The governments of the European Union launch structural reforms; employment and the flexibility of labour markets grow. The European economy expands at a much livelier rate than the present pace, at the same time meeting the Maastricht criteria. The number of countries within the European Union that adopt the euro increases. The objectives of the Lisbon Strategy are given priority. Research and development gain an increasing focus among the driving forces of economic growth; R&D results are utilised in a growing number of scopes, and a European Research Community will develop gradually. The Constitution will be agreed upon. Enlargement processes develop favourably, and additional countries in the Balkans access the EU after Romania and Bulgaria in 2007.

The Hungarian economy capitalises external conditions that are favourable, and considerably strengthens the internal conditions of growth by improving the equilibrium of the economy relatively fast through radical measures and reforms. Public finance deficit is cut back in the short term to the level prescribed by the Maastricht criteria (less than 3 per cent of GDP), and inflation drops deeper. Consequently, the economy continues to be attractive for foreign investors. As a result of these factors, the Hungarian economy expands two per cent faster than the EU average. By utilising funds generated this way and also originating from EU funds, development programs accelerate and particularly grave social problems are mitigated. Development programs prove efficient, because the scopes and direction of developments are based on appropriate planning and an institutional system promoting effective usage has been established. The vision of convergence has come true fast!

Favourable external conditions also contribute to the improvement of Hungary's competitiveness, and opportunities arise for close cooperation with member states of the

European Union. Results of the innovations achieved in the EU are available to Hungary, along with joint research projects and extensive usage of results.

Between the years 2006 and 2015, Hungary's GDP expands by 4 to 4.5 per cent. Consumption picks up at a rate lower than the GDP growth, but investments grow dynamically as a result of a powerful expansion in EU funds; external balance improves. The criteria to adopt the euro are met in 2008 or 2009. With a strong political commitment, public finance deficit is reduced to less than 3 per cent by 2008–2009.

After 2010, economic growth temporarily accelerates slightly, by 0.5 to 1 per cent, to be around 5 per cent as a result of savings generated by the euro adoption, a substantial decrease in financial risks of investments, and by the implementation of EU-funded development projects. The ratio of new types of goods and services to be exported increases, exports diversify geographically and also in the structure of goods and services. Accounting for a low ratio at the present, services export picks up, allowing a more efficient utilisation of trained labour. Growth is innovation-oriented, distributed in a wider scope in the economy, development gaps between regions diminish, and, apart from major international corporations, smaller foreign enterprises and Hungarian medium-sized companies are also doing well in the market race.

There is an influx of net EU funds and foreign direct investment, amounting together to at least 4 per cent of GDP on annual average. In addition to processing industry, promising investments targets in health care, education, culture, the real estate sector, logistics, telecommunication, information technology, and agriculture are also found by international capital. Hungary's EU status represents an investment attraction for third-party countries mostly. Incumbent corporations reinvest most of their profits in Hungary, their activities in

the country expand further. Investments into business services and other knowledge-based services promote corporate innovation activities in a wide scope. Multinational corporations continue to relocate and bundle certain corporate activities (customer care, accounting, financial settlements, applied research, and technology development) to Hungary (and other Eastern European countries). The currently low level of capital export accelerates, and in addition to large corporations, some medium companies also make investments abroad.

The reforms to achieve this dynamic path are predominantly aimed at a comprehensive modernisation of government activities, which directly affects public finance through expenditures. Reforms are extended to municipalities, state administration, education and vocational training, health care, the pension system, and other public services. In addition to reforms, modernisation projects in a number of areas promote the development of an active and innovative corporate environment. In order to enhance competition regulations and competition-promoting conduct, obstacles that hamper competition are eliminated as soon as possible, and the liberalisation of network industries continue.

### Right boat, wrong wind

In Scenario B – *when the boat has been renovated but the wind is not right* – world economic conditions are worse, but Hungarian structural reforms are advancing, the economy's potential for growth and innovation increase, competitiveness improves.

The leading role of the USA in global economy dwindles; some of the acute problems of her economy – such as a high debt ratio of households, and substantial deficits in the central budget and the balance of payments – are man-

aged for now, but these problems come to a head in the medium term. The dynamism of U. S. demand decelerates, slowing down European exports and global economic expansion.

The economic power of China and India increases further in global economy, but confrontation mostly with U. S. interest picks up, particularly in the scope of research and development. Contradictions and uncertainties stemming from the impacts of globalisation get more emphasis mostly because of uneven income distribution; political and religious conflicts intensify.

High oil prices barely drop, staying steady at levels much higher than earlier. This, coupled with an unsteady energy supply, perceptibly hamper the progress of global economy.

The rates of the main currencies (the U. S. dollar, the euro, and the Japanese yen) change considerably, the European Union's relative competitiveness deteriorates. The relocation of jobs from Western economies to cheaper regions continues, protectionism intensifies (the EU labour market remains inflexible). Not enough competitive jobs are created in Europe, while an ageing population puts an increasing burden on the economy. Cheap and trained labour migrating from foreign countries chooses North America, not Europe. The demand for wage convergence in the EU enlargement countries of 2004 is stronger than the commitment toward new factors of competitiveness.

The scope of euro zone countries within the European Union expands at a slow pace; the internal integrity of the EU fails to get stronger, forces of dissent intensify, a crisis cannot be ruled out. The scope of countries that violate the Maastricht criteria expands.

In the most powerful countries of the European Union, no in-depth changes are made in employment, social reforms, education, taxation, and migration. Built-in brakes in the European economy continue working,

hampering globalisation-driven innovation-based convergence.

If, in spite of these relatively unfavourable conditions, the Hungarian state reform is implemented dynamically and adjustments to achieve equilibrium are successful and the convergence program is executed, then the convergence program continues, if only at a slightly slower pace than outlined in Scenario A. The country's GDP expands by 3 to 3.5 per cent each year. Foreign investments may be lower, there are fewer opportunities for cooperation, and innovation results will not be that impressive. Yet, economic growth still exceeds the EU average (which is lower here than in Scenario A) by 1.5 to 2 percentage points, but less could be spent on developments and social cohesion. Intensifying political and religious conflicts are a drawback for Hungary as well, because benefits stemming from globalisation can be utilised at a lesser extent only.

In addition to a contraction of trade opportunities on external markets, high oil prices also affect the external balance of the economy adversely; the position of industries with high energy demand deteriorates further and the population face additional burdens. In the event when the euro firms against the U. S. dollar and the Japanese yen, Hungary's exports denominated in the euro will contract, lowering economic growth.

### Good winds, torn sails

Scenario C – *good winds, torn sails* – presumes favourable conditions in the global environment but an unfavourable domestic backdrop. In this case, Hungary fails to capitalise the benefits of an intensifying integration in Europe and global economy, or growth potentials stemming from cooperation; no real reforms are made, avenues of innovation are not explored, state services are not modernised. All

this means for Hungary that the convergence process slows or halts entirely.

This alternative has to be considered because structural changes and reforms that cut back government spending either in the short or a longer term are opposed, challenged and perhaps stymied by considerable professional and political forces (which even makes thorough preparation of these issues impossible).

In lack of reforms, public sector deficit is reduced at a slow pace. Euro adoption is delayed to 2014 or even later. GDP growth decelerates to around 2 per cent, while inflation speeds up. Monetary processes (exchange rates, interest rates) are unfavourable, external balance fails to improve.

### Battered canoe, heavy storm

*Scenario D – depicting a battered canoe in a tempest* – represents unfavourable conditions in global economy and failure for Hungary's economic policy, in which case the influx of foreign capital drops heavily, and a large-scale capital extraction could be a realistic threat. This negative scenario indicates a GDP growth of no more than 1 to 2 per cent as well as grave economic and financial problems.

## CONDITIONS OF IMPROVING COMPETITIVENESS

The conditions necessary to improve competitiveness are reviewed here in three groups as follows: State activities; corporate environment; and investments into innovation.

### Comprehensive modernisation of state activities

Regarded as indispensable, the essence of public administration reforms is to create approxi-

mately 200 true decision centres (areas and institutions) for financial, economic, and social issues across the country on the basis of micro-regions, cities, and regions. They would get real revenues from real taxes; the weight of normative funding provided by the central budget decreases consequently; the number of normatives drops radically, their system is rearranged entirely. The decisive majority of public administration should be based on such a system. These changes are supported by restructuring the local taxation system: In the case of some new local taxes that are implemented on the regional level, these revenues will be shared between the town where these taxes are generated and the micro-region and the region. In this design, local business tax is discontinued.

The present levels of task fulfilment should be redesigned by all means, enforcing decentralisation as the main direction. Most of the present central tasks should be delegated to the municipal sector, while some of the current tasks of towns should be arranged on the level of micro-regions (this requires rational centralisation).

Regions should function as the optimal units of competitiveness (the basic unit of international competitiveness is a multifunctional region, not the country). Human services based on advanced IT basis as well as business ICT-based centres should be connected geographically and physically. Conscious planning of regions shall be started urgently, with a view to development projects to be designed to absorb EU funds in order to create the necessary regional capacities by 2015 even in underdeveloped regions.

In the central public administration, much fewer institutions are needed, which, however, should undertake their activities in a more rationally organised manner. The directions of the proposed changes should be as follows:

- Organisation, management: Reduction of the number of ministries; consolidation and

rationalisation of supporting institutions. Re-regulating public administration procedures; fewer grades in hierarchy; a more coordinated teamwork; and making the parties involved in mutual results (problem solving). Decentralising tasks (partially); delegating tasks (from central scope to regional or municipal competence).

► Transparency: Making it clear and traceable what public burdens finance what tasks and for how much.

► Monitoring and assessment; performance criteria; measuring; rewards.

A “*developing state*” that manages EU funds, too, shall be created. A powerful decision-making centre, heavy coordination and interdepartmental discussions are needed to sort out various development programs and those too many rivalling priorities. This should be accompanied by a resolute decentralisation from the ministries to the regions, and also by the transformation of ministries into strategic planning, controlling and service providing organisations.

In the scope of education and training, the fundamental change would be a different approach and activity by schools and teachers. In primary school, children should be taught to learn how to read, write, use the computer (information technology) and how to learn languages. This kind of performance of students (and teachers) should be regarded and rewarded. At the intermediate level, vocational training (and/or training that prepares students for further training) that meets the demands of the labour market should be implemented.

According to the concept of the Ministry of Education, the number of higher-education students will have dropped by 150,000 – or 60 per cent of the current headcount – by the end of the decade, justified by demographic processes and the demands of the economy alike. The primary objective of the reform currently under way is to align higher education levels to the requirements of the Bologna

process whose aim is to render the higher education system transparent, compatible and comparable in each country of the European Union. Within higher education, a more prominent emphasis should be put on technical and natural sciences.

A significant portion of the government's R&D activities (the Hungarian Academy of Sciences) will become part of higher education, and a more performance-oriented system for funding will develop simultaneously.<sup>12</sup> Interpenetration between the corporate sector and the scientific scope will intensify.<sup>13</sup> In the scientific and research professions, bilateral mobility on international level (to and from Hungary) and also in the scope of sectors (between corporations and research facilities) should also be encouraged. In respect of certain professions, migration of highly educated professionals to Hungary could also be made a priority in economic policy.

Changes in financing education and training would also be justified in the period surveyed. The corporate sector has to participate increasingly in training (retraining) and also in funding. The accessibility of higher education entirely free of charges cannot be sustained, either. Lifelong learning and language studies shall be made a general approach.

In health care, application of the insurance principle and the levels of neediness shall be implemented. By involving private capital under strict conditions, the sector could embark on a favourable growth path.

In respect of public services, a marked change in the content of the role of the state is seen: The owner's price-setting role is replaced by an approach of influencing the social and economic environment (security of supplies, control of realistic prices). It is important that the state shall not distort real market values and prices by social aspects through corporations it owns (as each government to date has made this mistake). State ownership in certain com-



panies in the energy sector should undoubtedly be retained, the selling of these stakes is subject to financial considerations.

### Improving the environmental conditions of active and innovative corporate operation

When general business environment in Hungary is examined from the aspect of competitiveness, it is clear that competition in Hungary is often hampered by business environment regulations and certain (partially state-owned) companies in spite of the EU legal harmonisation and the competition intensifying approach of the Lisbon Strategy. This could be helped if:

- the government disposes of golden shares,
- social aspects are eliminated from price regulation in the electricity and gas supply sector,
- the degree of market consolidation decreases further in liberalised energy markets, the possibility arises for competition even in customer services,
- domestic bias toward incumbent (decisive) corporations in the telecommunication market wanes, the positions of new entrants improve, leading to a permanent decrease in the real prices of these services,
- in the scope of railway cargo transport, where Hungary was given derogation from opening this market, the opportunities of incumbent MÁV [Hungarian State Railways] to restrict competition shall be reduced, and competition should be created for subsidies that come with state orders for passenger transportation services.

In order to make competition livelier, the Competition Act should be enforced at a greater extent, public procurement simplified and at the same time controlled more stringently.<sup>14</sup> Efficiency is given priority in the case

of oligopolies stemming from the small size of the economy and also in the issue of merger control.

Simultaneously to the rationalisation of state tasks, the opportunity to lower public burdens will likely open after 2010 as follows:

- public burdens on employment (social security contribution primarily),
- the system of tax allowances that act as incentives for various investments, innovation, vocational training should be standardised (solutions related to innovations processes need to be designed as soon as possible),
- administrative tasks related to taxation should be simplified, transparency improved,
- taxation to include environment protection components should be implemented.

There are two visible trends to impact the taxation policy of the next ten years. One, a unilateral simplification and standardisation of taxation, the other, harmonisation to EU directives. The most radical design of tax simplification and standardisation is the implementation of flat tax.

As a result of the European Union's tax harmonisation endeavours, the differences between indirect taxes will diminish, not the least as a result of an increase in online purchases.

### Investing into research and development and innovation

*As a result of the intensifying significance of knowledge-based economy, both quantitative and qualitative progress, or even a breakthrough is needed in its important areas, such as research and development and innovation activities.<sup>15</sup>*

On the demand side, an increase in corporate R&D spending is promoted by advancing the financing mechanism of Innovációs Alap [Innovation Fund], which is hoped to get more

sophisticated. Enterprises conducting R&D or purchasing R&D from state-owned institutions or NGOs will have to pay less in public contributions. This rule should be extended to business R&D service providers as well. In the government sector, public technology procurement (PTP) programs are devised regularly.<sup>16</sup> Within these programs, governments (both central and local) prepare technology innovation plans, stating the proportion of technology (innovation and/or R&D) content in their public procurement projects.

On the supply side, priority should be given to the realisation that application funds spent on innovation (including R&D and sciences) are utilised best when they help establish (corporate) networks (e.g. relations between industries and universities, industrial clusters, etc).

Units in the Hungarian R&D sector that are uncompetitive because of their small size cluster into larger research communities, becoming members in the few research communities; and research communities working on identical subject matters will develop into few networks (or even virtual communities). Relative to GDP, the increase in R&D spending should be linked to institutional reforms aimed at improving the efficacy of the knowledge industry, and selection cannot be neglected. Hungary cannot be competitive in all scopes, but she could be among the best in some areas.

It is a complex task to ensure the framework that provides incentives for R&D and innovation activities that can serve a modern market economy. The major components of such a framework are:

- a critical mass of highly trained researchers and engineers in the economy (this requires an industrial background, thus investment incentives affect this process strongly, if only indirectly);
- intense external and internal mobility and also between research centres and corporations (bilateral international mobility; cor-

porations participating in the steering of science and technology policy);

- improvement of innovation statistics (in addition to EU-aligned measuring, ensuring the measurability of the impacts of individual programs, for example combining the corporate R&D databases with APEH [Taxation and Financial Control Authority] and Companies Registry data for research purposes);
- reforms in tendering should be made (transparent decision-making process; independent bid assessment; elimination of “hand feeding” in the entire public sector [when applications, often for a ridiculously low amount, are invited with a single research facility in mind]);
- impact analyses of major R&D programs (assisted by regular gathering of innovation and competitiveness statistics mentioned above);
- institutional-level assessment (updating the missions of government-controlled research facilities; strategic and short-term objectives with subsequently and publicly assessed indicators; the weight of publications currently acting as performance indicators should be reduced considerably, and compliance with innovation and R&D objectives within the collaboration of corporations and research facilities should be controlled instead);
- protection of intellectual property (patents, trade marks, etc.) is updated, the efficiency of law enforcement procedures related to the infringement of (intellectual) proprietary rights increases substantially;
- the heads of research facilities operated by universities (the Academy) should be empowered to contracting, financial and staffing rights, being personally responsible for the business operations of the institution in question;
- in order to lessen regional gaps, research

projects made in collaboration between Budapest and rural regions should also be given emphasis, and regions shall be given the responsibility to spend the funds and manage these programs;

- efficient innovation policy coordination is implemented among the institutions involved.

## EXPECTED TRENDS AND THEIR SYNERGIES ON THE BASIS OF SCENARIO B

Maintaining and improving the competitiveness of the Hungarian economy cannot be done without implementing the decisive majority of internal provisions; however, regarding external conditions, the EU is not expected to facilitate structural reforms with overwhelming success in the next ten years. Therefore, *Scenario B is the most likely to come true in respect of competitiveness.*

Competitiveness is greatly determined by the expectations of autonomous market players. In the first half of 2006, GKI Rt. [GKI Economic Research Institution Co. Ltd.] made a survey of the visions of corporate executives for the next ten years, and of their expectations of competitiveness factors and competitiveness itself, and also of anticipated risks and dangers.<sup>17</sup> In the following sections of this analysis, the results of said survey have been used extensively.

### Competition, market situation

Company executives in the GKI Zrt. survey were not optimistic about the future competitiveness position of the European Union, Hungary's largest market. By 2015, China, Japan, and the United States will have outstripped the European Union. Nevertheless, the most important impacts of the processes

between 2006 and 2015 on the business sector will be an increasing sales opportunity for exporters and their suppliers on the back of an expanding global economy. Domestic demand will also be rising. Moderately rising income in households means good news for importers and certain companies in the services sector. If the restructuring of the system of social benefits manages to improve the financial position of the poor considerably, producers of foods and other basic consumer goods will also benefit from it as their sales opportunities grow.

Given a substantially boost by EU funds, investments made by the central government and local municipalities will ensure orders for a wide scope of domestic enterprises in the years to come.

Due to the expected reduction of public finance deficit, markets currently financed by budget funds and not related to EU programs will shrink or transform into regular (or joint-finance) markets. Some of the functions that are presently fulfilled by budget institutions will be taken over by the business sector. The influx of private capital and an upswing of business service providers in education and health care are expected to accelerate, if not as a result of reforms, then spontaneously.

It's not only the market that will expand between 2006 and 2015, but market competition is also expected to intensify, especially in areas where Hungary's EU accession has demolished commercial obstacles or made access through boundaries easier (for example, in food industry and in the scope of small and medium enterprises). Following the accession, a lot of Hungarian companies were shocked to see new competitors from the EU arrive to their home markets, as predictions had indicated, but with time an increasing number of Hungarian companies have obtained experience in doing business in EU markets. In the years to come, the impacts of having learnt to adapt to competition will be evident not only in

the results of major corporations but also in those of smaller companies. The responders of the survey mostly highlight a decline in demand, new competitors, and muscle-gaining old rivals as the major risks that threaten the progress of their companies. Corporate executives are much more afraid of the arrival of new competitors from the EU than of rivals outside the EU (44 per cent and 26 per cent, respectively).

In the next years, an explosive liberalisation will take place in network industries, primarily on the basis of the directives approved by the EU. This will have far-reaching consequences, as the market will go through a serious reshuffling. The few existing state-owned, monopoly-driven mammoth corporations will dissolve, to be replaced by enterprises that are able to provide internationally competitive services in the market in question. This process will take place in a concentrated period of time – almost simultaneously – in the EU member states, thus enterprises starting to prepare for the changes before the others will have substantial leverage.

Against a backdrop of intensifying competition and globalising markets, enterprises will reap successes that are able to adapt to global economy processes and local conditions simultaneously. The easiest way for Hungarian enterprises to achieve this is to join international networks somehow that provide their members with benefits in organising supplies and sales, and collaborate in designing strategies and development objectives. An intensifying competition will increasingly urge enterprises for innovation activities.

### Capital accumulation, equity flow

Between 2005 and 2015, the expected dynamic expansion of investments feeds on two sources: Corporate investments increase fast

because of favourable opportunities in exports, and development funds from the EU also rise.

Capital exports of developed countries will be hindered by a slow expansion of their economies and also by their domestic political problems, yet Hungary could remain an attractive target, especially for EU-based medium-sized companies, provided a favourable, secure economic environment is created in Hungary (by more flexible administrative obligations, better labour and education, etc.).

As for individual industries, foreign direct investments will be made – in addition to processing industry, commerce (logistics), and knowledge-based services – in health care, education, culture, and agriculture, if regulations permit. Also, scores of European small and medium enterprises will establish businesses in Hungary.

In order to optimise corporate activities on a global scale, multinational corporations continue to bundle their customer care, accounting, financial settlement, applied research, and technology development divisions to their branches in Hungary (and other Eastern European countries).

### Employment, labour market

Between 2006 and 2015, an increase of approximately 7 per cent is to be expected in the number of employment, representing an expansion of 160,000 employees. Labour demand is expected to grow by 0.5 per cent on annual average in the years to come, faster than in previous years, yet the growth fails to lead to the desired level of expansion in employment.

Corporate executives' visions also indicate a slight increase in employment by 2015. The corporations that forecast an increase in employment typically employ at least 250 staff, which leads to the conclusion that the headcount-increasing ability of medium and large

corporations will improve primarily. In the scope of smaller companies, much fewer managers expect a rise, and nearly half the responders say the present situation in employment will not change considerably. Companies engaged in postal and telecommunication services anticipate a decline in this scope.

The qualification level and composition of employees will develop by matching the labour market's changing conditions better. Lifelong learning expands. An increasing scope of employers will require employees to display qualities that the current school system cannot, or just partially, deliver, including aptitude for cooperation, ability for teamwork, and communication skills. Importantly, employers should recognise their role in developing an appropriate staff and ensuring the necessary skills, and not to expect the education system to release “ready-made” would-be employees.

A slow change in the structure of employment continues. The ratio of agricultural employees will drop below 4 per cent by 2015, the employment role of industry will decline somewhat, recording 23 per cent, whereas it will grow to 8.5 per cent in construction industry. Roughly one-third of all employees will make a living in industry and construction industry. The employment potential of services and infrastructural sectors will develop in a differentiated way, a marked increase is expected to be seen in logistics, as well as in services that assist real estate businesses, and also in other “back-office” jobs. The employment role of community service providers whose decisive majority are operated by the central budget will dwindle considerably. The significance of the private sector in education and health care intensifies continuously, but the community scope will retain its dominance.

Regional anomalies of employment as well as structural tensions of unemployment will ease a bit. The country's central and Transdanubian (western) regions continue to be the strongest

employment magnets, but a shift in employer composition will accelerate as a result of the two-way movement of foreign direct investments. In the eastern and southern reaches of the country, unemployment will decline a little. International migration of trained workforce will pick up, and foreign employees are expected to increase their role. In the second half of the period, old EU countries are expected to eliminate their labour market restrictions implemented against newly accessed member states, and the number of countries to accept Hungarian workforce will increase.

### Knowledge economy, innovation

Currently recording an extremely low level and having fallen in recent years, corporate spending on R&D are expected to start growing in the years to come, partially as a result of incentives ensured by the tax-like contribution on innovation, and a similar increase is expected in an expanding scope of small and medium enterprises. Due to budget limitations, government-financed R&D expenditures will be growing at a very slow pace only. Achieving a minimum level of R&D spending at 1.6 per cent of GDP – which, however, would still be insufficient for a long-term dynamic technological development – is not to be expected before the end of the decade at the earliest. The survey indicates a very strong corporate expectation for a step-up in R&D and innovation activities. Companies projecting economic convergence indicated a growing importance for innovation, but those forecasting a decline in innovation accounted for a very small percentage of the responders. If these processes went in line with corporate expectations, the unfavourable trend, having prevailed to date, could finally be broken. In this question group, it was larger corporations primarily that opted for intensifying R&D and innovation process-

es, particularly in processing industry, but companies engaged in postal services and telecommunication also displayed an extremely strong expectation (desire) for an upswing in R&D and innovation.

### Regional and environmental impacts, infrastructure

Regional differences in Hungary will not abate spectacularly. Budapest and rural areas, west and east, central and southern Hungary continues to progress at different speeds and on different paths of development. Innovative individuals' slow flow to the central and western regions of the country will be a continuing phenomenon. Income gaps will permanently survive both on regional level and within the network of towns, which in turn could intensify political and social tensions in the future. With the emergence of EU funds, regional lobbies are expected to gain strength.

The dominance of Budapest and the lack of big cities are not expected to change in the next ten years. The projected role of Budapest is one of contradictions: Vienna, by its superior financial and organisational power, will most likely become the hub of the region, while Budapest will fall behind because of her inferior resources, poor development concepts, and outdated infrastructure. Incidentally, foreign investors believe Budapest has great potential. What would help much is if Budapest were "better designed".

In rural areas, accounting for 61 per cent of the towns and villages in Hungary and 30 per cent of the country's population, lack of jobs continue to be a problem, and the population in these regions either migrate or become aged. This is a significant tension spot of Hungary's locality structure, and even though there will be successful development projects, hardly any changes are expected in the overall picture.

Border-zone cooperation with neighbouring countries (including four EU member states) could open new avenues in Hungary's regional development. Apparently, a new development and communication hub is being established from Komárom to Szentgotthárd, and the region's earlier marginal status is rising. The European Union will continue to support cooperation along internal and external borders.

Savings-oriented and efficient management of natural resources slowly gains recognition. That the economic growth should take place with a dramatic decrease in unit material and energy consumption and an absolute reduction in the emission of materials that are especially harmful for the natural environment can be achieved by applying the tools of environment protection, economic incentives, legal regulations, and the enforcement power of social groups. Outdated technologies in industry are conquered, opportunities arise to employ new, environment-friendly technologies.

Environment protection in Hungary continues to develop along compulsory paths. In the case of organic development, environment policy would endeavour to solve environmental problems that affect the population directly, whereas solutions to global problems and the execution of obligations stemming from international treaties would be relegated. As a result of Hungary's accession to the EU, international obligations have remained at the top of the priorities list, providing one of the reasons for a lesser social support for environment policy. The development of the institutional system will not be given appropriate attention in the period surveyed, therefore hardly any progress will be made to close the gap in this scope.

Following the example of numerous EU member states, development plans and strategies for a time span of 5 to 10 years or longer should be devised in the scope of infrastructure.

Some parts of various sectors of infrastructure (railways, air transport, postal services,

etc.) run substantial losses, currently financed by the central budget. In the case of rationalising the state-operated railways, grave problems of employment arise that are hard to manage socially or politically, but these problems are typical of the railways of other EU countries as well. In Hungary, rationalisation – streamlining the number of employees by an additional 15 to 20 per cent – looks increasingly inevitable. At the railways, nearly 60 to 70 per cent of the staff are untrained workers, and only 1 to 2 per cent of the employees hold a degree of some kind. At Magyar Posta [Hungarian Post], modernisation is more powerful, but a considerable redundancy should take place.

In infrastructure, liberalisation, market competition, partial or full-scale privatisation proves superior at an increasing rate. In order to achieve success in this scope, tariffs of services should gradually be based on market terms. In market economies, business and social policy should be separated strictly. The practice cannot be sustained that only 10 per cent of railway passengers are charged full fare, while 90 per cent pay partial price or nothing at all in Hungary.

As for the perspectives of individuals industries, the GKI Zrt. survey indicates that one-third of the development opportunities that ensure the fastest pace will be realised in production industries, but two-thirds of them are likely to emerge in service sectors in the years until 2015. In respect of the structure of development Hungary faces in the next decade, the responders in the survey forecast a shift toward the services sector.

Tourism came in as the winner of the survey with considerable lead. Medical and wellness tourism are two areas with substantial growth potential, followed by information technology (computer technology and related services including telecommunication). Construction industry continues to expand very dynamically in the years to come, being one of the biggest gainers of Hungary's accession to the EU. The development of transportation, water issues, waste management, and piped infrastructure is one of the main items on the agenda in the next decade, and most projects aimed at these areas will be supported by EU funds. Logistics continues its fast-paced progress.

## NOTES

<sup>1</sup> This article is an abridged and updated version of an excerpt from a book compiled by the authors by using the studies made for the project (see Literature). Fehér könyv. Magyarország 2015-jövőképek, [White Book. Hungary 2015 – Visions] MTA-MEH Projekt-MTA Szociológiai Intézet, Budapest, 2006 [Hungarian Academy of Sciences – Office of the Prime Minister Projects – MTA Institute of Sociology; Budapest, 2006]

<sup>2</sup> The index is based partially on statistical data and partially on numerous expert surveys (therefore on subjective opinions of experts).

<sup>3</sup> Unit labour cost, or ULC, is the indicator that shows the amount of labour cost required to produce one unit of GDP.

<sup>4</sup> The following definition shall be used hereon:  
Export orientation = export sales/total sales

<sup>5</sup> According to corporate surveys looking back 10 years, the ratio of enterprises implementing new products and/or technologies reflect a decreasing trend. There is a clear relation between innovation endeavours and competitiveness: As self-assessment of competitiveness degenerates, so does the intensity of attempts to introduce new products and technologies.

<sup>6</sup> No newer data are available in respect of such a wide scope of countries.

<sup>7</sup> "...entrepreneurship, information and communications technology, innovation and human capital are critical policy areas for growth and productivity".

(Micro-policies 2005). The project is based on the methodology of quantitative benchmarking, as a continuation of OECD's Growth Project of 2001.

<sup>8</sup> Chen – Dahlman (2005)

<sup>9</sup> It stands true even if the most innovative countries of the EU (Scandinavia, particularly, Denmark, Finland, Sweden, and sometimes Iceland and Norway) are outstripping the USA and Japan in an increasing number of indicators, see Novotny (2005)

<sup>10</sup> Sapir (2004) and Camdessus (2004) cited by Aghion et al. (2005)

<sup>11</sup> The result of a joint survey by Battelle and R&D Magazin. Cited by *INFINIT* (2005)

<sup>12</sup> Government-financed R&D shall basically serve economic and welfare purposes, with a few exceptions in cultural, historical etc. research.

<sup>13</sup> For example, in the governance of science and technology policy, in editorial committees of publicly financed scientific journals, PhD criteria, etc.

<sup>14</sup> In international comparison, the ratio of public procurement in terms of GDP is very high at 30 per cent, whereas the OECD average is around 20 per cent only.

<sup>15</sup> In fact, thinking in an innovation system, rather than numerical targets, should be the general approach, and it would be very important for Hungary to have a flexible innovation system that could react swiftly to fast-paced global changes (Borsi, 2005).

<sup>16</sup> According to international examples, opportunities for PTP programs are mostly offered by certain sectors of health care and (public) security, but in fact R&D components could be considered in every public procurement project with technical content. In Austria, for example, tar types are being developed for motorway construction to ensure an 8 to 10 per cent lower noise level. Tests indicate that, in case industrial implementation is successful, noise impact could be reduced by 40 to 50 per cent, which would be a substantial factor in life quality improvement.

<sup>17</sup> In spring 2006, GKI organised a survey in the corporate and entrepreneurial scope to map company managers' vision for a longer term (until 2015). The questionnaires were sent by mail to 7,500 enterprises and 714 sent back the questionnaire ready for assessment. The response rate recorded nearly 10 per cent, a good result for similar surveys. Based on the number of staff, the companies that participated in the survey covered roughly 12 per cent of the enterprise scope, which provided appropriate background to the survey.

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