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on EU-10 and CIS

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News of the Month, on EU-10 and CIS

The ICEG European Center issues its monthly publication, which includes 2-4 brief analyses on macroeconomic and microeconomic issues. The publication focuses on two groups of countries: *Commonwealth of Independent States - CIS* (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan) and the ten post-soviet *New Member States of the European Union – EU-10* (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia).

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About us

ICEG European Center is an independent economic research institute based in Budapest, Hungary. The Center was founded by Dr. Pál Gáspár in 2001.

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Bilateral investment data: statistical discrepancies in the V4 countries¹

*Magdolna Sass**

Introduction

This short paper deals with the discrepancies in bilateral OFDI statistics of the four analysed countries, the Visegrad countries, i.e. the Czech Republic, Hungary, Poland and Slovakia. Foreign direct investments in each other are relatively significant, especially when taking certain pairs of countries. For example, Czech and Hungarian investments are significant in Slovakia, Polish investments are relatively significant in Hungary and Slovakia etc.

However, it is not easy to find reliable numbers about the extent to which these countries account for the share of total foreign direct investments in a given country, how big the relative significance is of these countries to each other as investors. Thus data problems hinder the analysis of regional investment flows.

This short paper first shows the problem by comparing reported and mirror statistics. Second shows the same problem in the case of other countries. Third presents the possible causes of discrepancies. Fourth provides policy recommendations along the lines international organisations (mainly OECD and IMF) aim at solving this type of problems.

Differences between reported and mirror statistics

Data of the national banks of three analysed countries (the Czech Republic, Hungary and Slovakia) are contrasted – the Polish national bank does not present detailed data on its website on foreign direct investments affecting Poland. Thus Polish data are compared separately, and their source is Radlo (2010).

From *Table 1* it is obvious, that differences in some cases are really large between reported and mirror statistics, especially in the case of stocks of Slovak investments in the Czech Republic and stock of Czech investments in Hungary. Hungarian reported data show the smallest differences compared to mirror statistics. It is also apparent, that usually reported statistics of the sending (home) country indicate a much higher value of investment than receiving (host) country mirror statistics. This is in correspondence with differences in trade statistics: reported exports are usually larger than in mirror statistics.

¹ This paper is an outcome of the research project 'The role of outward foreign direct investments in the Visegrad countries in strengthening regional integration with special regard to economic cooperation' co-sponsored by the International Visegrad Fund.

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Table 1. Foreign direct investment by Czech Republic, Hungary and Slovakia in each other, stock and flow, 2008 (million euros)

	Stock Reported	Mirror (partner country)	Difference (in % of reported data)	Flow Reported	Mirror (partner country)	Difference (in % of reported data)
Czech Republic						
In Hungary	28.5	49.9	-21.4 (75.1%)	16.8	-13	29.8 (177.4%)
In Slovakia	1492.2	2062	-569.8 (38.2%)	98.9	516	-417.1 (421.7%)
Hungary						
In Czech Republic	184.8	218.7	-33.9 (18.3)	31.9	30.3	1.6 (5.0%)
In Slovakia	2366.4	2073	293.4 (12.4)	71.1	...	n.d.
Slovakia						
In Czech Republic	579	1264.5	-685.5 (118.4)	98	132.7	-34.7 (35.4%)
In Hungary	14	21.4	-7.4 (34.6%)	...	-43.3	n.d.

Source: national banks of the analysed countries (Czech Republic: www.cnb.cz; Hungary: www.mnb.hu; Slovakia: www.nbs.sk)

Table 2. Polish investments in Czech Republic, Hungary and Slovakia, stock, 2007 (million euros)

	Reported	Mirror (by partner country)	Difference
In Czech Republic	1159.7	1297.4	-137.7
In Hungary	197.2	12.5	184.7
In Slovakia	51.0	15.5	35.5

Source: Radlo (2010) and national banks of the other three countries

Differences between reported and mirror statistics in foreign trade of goods and services is usually measured and compared by using the so called asymmetry coefficient. (OECD, 2004) If $X =$ Exports and $mM =$ Mirror Imports, the asymmetry coefficient equals with $(X-mM)/((X+mM)/2)$. These show small differences compared to for example service trade statistics. Moreover, compared to other destinations, they are also not very large (Table 3).

Table 3. Selected bilateral asymmetry coefficients for stocks of FDI in the Visegrad countries

Investing (reporting) country	Host country (publishing mirror statistics)	Asymmetry coefficient
Czech Republic	Hungary	0.14
Czech Republic	Slovakia	0.08
Hungary	Czech Republic	0.04
Hungary	Slovakia	0.03
Slovakia	Czech Republic	0.19
Poland (2007)	Czech Rep., Hungary, Slovakia	0.03
<i>Memo items</i>		
Czech Republic	Germany	0.08
Hungary	Germany	0.02
Poland	Germany	0.18

Source: calculations of the author from the national banks of the Visegrad countries, http://www.bundesbank.de/download/statistik/stat_sonder/statso10_en.pdf (German data).

However, it is important to note that there are some countries and destinations which are more “inclined” to under- or overreport investments in the analysed year, such as Czech direct investments in Hungary reported by the Czech National Bank or Slovak direct investments in the Czech Republic by the Slovak National Bank.

Possible sources of data problems

There is always a difference between reported and mirror statistics, for which the reasons are the following.

- In certain transactions, there is a time lag between reporting in the two affected countries, and when this crosses a turn of the year and larger transactions are involved, this may cause big differences in the two statistics;
- There are different thresholds of reporting, differing by countries, depending on the capacities of statistical offices (or central banks) and on the tendency to report by companies and/or banks;
- Methods of reporting may also differ from country to country causing discrepancies in data;
- Different currencies and different exchange rates may be used in reporting not independently of the time of reporting;
- Lack of reporting from some companies and differences in the “inclination” of companies to reporting;
- Problems with identifying investors (e.g. their nationality) may also cause differences in bilateral country reporting (one transaction included in the host country but not in the home country and vice versa);
- Different correction mechanisms applied for missing data².
- In foreign direct investments, statistics consist of three elements: equity investments, reinvested earnings and other investments. Data discrepancies may result from the fact that one or more elements are missing from the statistics published in one country, usually either reinvested earnings or other investments, due to the fact that data collection is even more problematic on these elements than on equity investments.

Correction of these data is made more problematic by the fact that exchanging data across national borders (between statistical offices) is complicated partly because of privacy protection reasons. (Giovannini, 2007, p. 14) That means, that there are one or two large transactions³, especially among the Visegrad countries which represent the major part of an annual inflow between two countries, thus revealing the amount of the inflow would give information about the value of an individual transaction.

² These causes apply mainly to trade data (listed by Eurostat, 2000 and Economic Commission for Europe, 2008), but investment data can have similar causes.

³ See e.g. Zemplerova (2010) on the Czech Republic, Sass, Éltető and Antalóczy (2010) on Hungary, Radlo (2010) on Poland and Ferencikova (2010) on Slovakia how a few big investors dominate bilateral flows into the Visegrad countries.

Policy recommendations

One possible sphere of cooperation can be the improvement of statistics on regional foreign direct investments in the Visegrad countries. This is backed by the fact that first, these countries are relatively important partners to each other in foreign direct investments especially certain pairs of countries (e.g. Czech and Hungarian investments in Slovakia; Polish and Slovak investments in the Czech Republic) and second, by the large differences in certain bilateral cases between reported and mirror statistics.

Foreign direct investments are only one of the groups of statistical data in which there is a scope for enhanced regional cooperation. Other investigations show similar or even larger differences in for example goods or services trade data. These call the attention to the importance of enhanced cooperation between statistical offices, national banks and other agencies.

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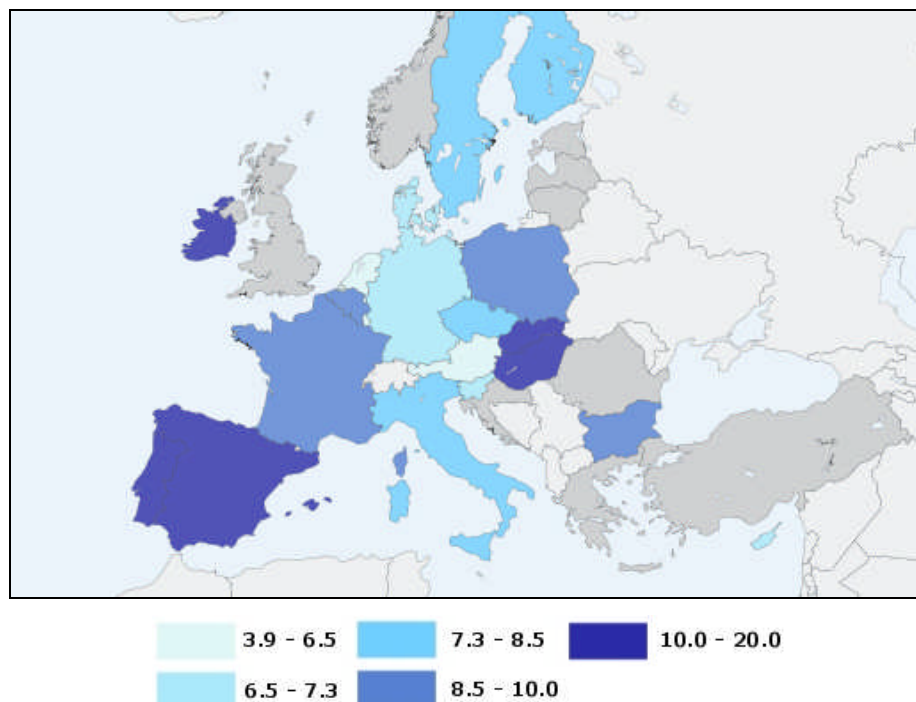
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Re-employment challenges in the EU2020 – Consequences for Hungary

Olivér Kovács

Rising unemployment throughout the European Union led to the re-assessment of the applied mechanisms to get the unemployed back to work, namely to enhance such channels which are more likely to foster a distinct melioration in the reemployment rate of the unemployed workers.

Chart 1. Intensity of the unemployment rate throughout the EU (%)



Source: Eurostat

The improvement of the employment rate was among the major leitmotifs of the Lisbon Agenda. Nevertheless, its achievements could have been more convincing. The overall employment rate of 70% by 2010 (the targeted values are 60 per cent and 50 per cent in cases of woman and older employees, respectively) plunged into phantasmagoria. Furthermore, another deleterious factor was the priority of the economic growth rather than jobs. The 2005 revision of the Agenda shed light on this perpetrated fault. The jobs are the key source of the economy in coping with the so-called aging society phenomenon. It goes without saying that the growth would be superfluous, just the contrary, growth is a must to create jobs in a sustainable manner, as the EU2020 has recognised.

Welfare to work

Nowadays, it goes to platitude that the European social model is suffering from the shift problem between the unemployment benefits and work. It has been receiving countless empirical backing (Van der Berg et al. 2004; Card – Weber, 2010). The conventional policies, including financially supported public sector employment programmes and various forms of active labour policy such as limiting the working hours etc., proved to be insufficient.

It holds especially in the aftermath of the financial crisis resulted in soaring deficits and debts of nations forcing them to rethink the labour policies due to its unsustainable manner. What we can learn about the past is at least twofold. On the one hand, under the consideration of recently published studies on this topic, we can claim with reasonable certainty that those policies were successful *in the short run*, which primarily encouraged the job searching process by transparent incentives.

On the other hand, we have to consider *long-term* incentives for the long-term unemployed who are living in a very sluggishly performing labour market. Long-term benefits for the recipients seem to have a smaller effect on re-employment ratio than the benefit sanctions. Consequently, if the national policymakers intend to raise the re-employment ratio they should focus on benefit sanctions rather than re-employment bonuses in order to stimulate the transition from welfare to work.⁴ It is worth noting that the effectiveness of any kind of policy is mostly depends on the future expectations of people. While the re-employment bonuses can be regarded as a promise on future payments, the sanctions materialize as immediately perceivable financial consequences which are likely to endanger the income stability of a recipient.

The above discussed exemplifies that the national labour market policies do not need to spend much more on the long-term welfare benefits for unemployed. Instead, they should tend to focus on sanctions, constructed with due diligence, and concentrate on small firms, especially on gazelles, as the engines of economic growth through their job-creator role.

At this point, let us add: the incentives have to embrace both sides of the unemployed and employer. The employers have to aware of the non-traditional forms of employment and the fact that Europe, especially Central and Eastern Europe, is going through the jobless growth phenomenon.⁵ As a result of the expanding service sector and the advanced technologies, the firms are getting operated in a labour-saving way. For this reason, the national labour market policies should encourage both the existing and potentially forming firms (e.g. start-up incentives).

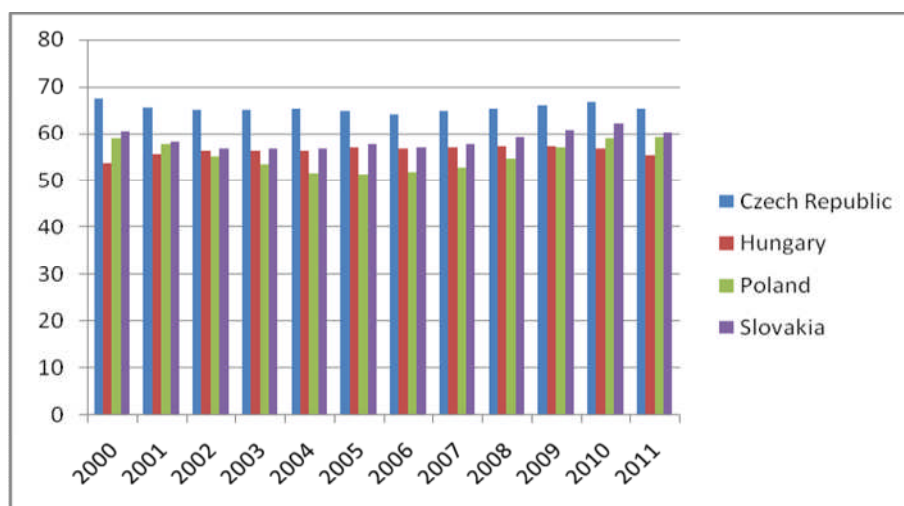
⁴ As it was shown by Card and Weber (2009) in case of re-employment bonuses used by Netherlands.

⁵ See for example the monograph of Cazes and Nesporova (2007) on this complex set of issues.

Much room for improvement

Hungary has one of the lowest employment rates in the European Union, which is a huge challenge for the public finance.⁶ While the Hungarian labour market policy largely emphasizes the importance of the job-search allowances, the lack of efficient short-term incentives remains a strong feature of the system. But, it should be noted that the monitoring of different programmes has not shown whether they had unequivocally positive or negative effect on the labour market.⁷

Chart 2. Employment rate in the Visegrad countries (%)



Source: Eurostat

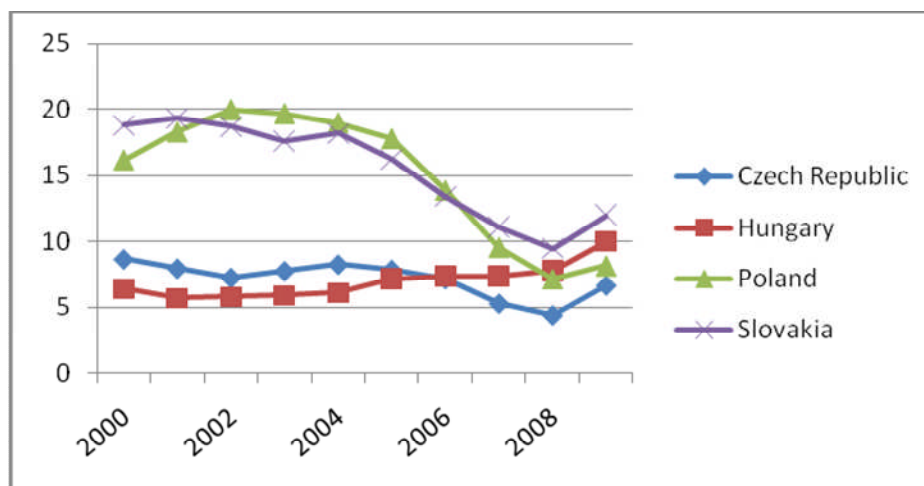
Czech Republic has traditionally higher employment rate than other V-4 countries. It is attributable to the surpassing expenditures on employment incentives and such measures which are dedicated to enhance the integration of disabled. These fields constitute the backbone of the Czech active labour market policy. The Czech employment rate performs better, even if the labour market policy does not give as much attention to the training as the other V-4, or EU countries (Melis, 2006). Hungary's expenditures on training, employment incentives and on direct job creation were significantly higher than in case of the Czech Republic. In an effort to unravel the causes of a still registrable backlog of Hungary, it would be instructive to take into account the quality level of education and the social situation of those having lower educational level. The employment rate of those with a lower educational level considerably lags behind the EU-average (the difference is more than 20 percentage points, because the EU-average is 46.2 per cent in contrast to the 25.7 per cent of Hungary). The most worrying labour market condition was in Poland, but the traditionally low level of labour market participation underwent a gradual melioration since the midst of the 2000s. As far as Slovakia is concerned, its labour market participation has started to rise significantly in parallel with the Polish's improvement.

⁶ Hungary has the second lowest employment rate (55.4 per cent of total active population) in the European Union after Malta. (KSH, 2010).

⁷ Public Employment Service (2010).

It could be *inter alia* a possible explanatory factor behind the structural weakness of the Hungarian labour market. Another equally important factor could be the ill-targeted and inefficient unemployment benefit system. Although the system went through distinct changes since the regime change, it was not able to successfully cope with the substantial trade-off between the unemployment benefits and effective job-seeking. The undisputable sign of this is the visible stagnancy of the unemployment rate, and its deterioration.

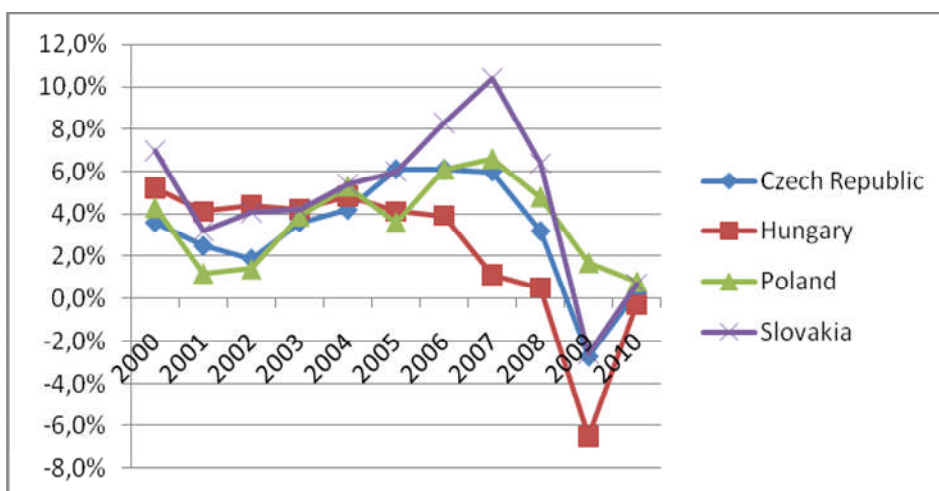
Chart 3. Development of the unemployment rate in the Visegrad countries (%)



Source: National Statistical Offices.

The Hungarian path seems to be a prime example for the golden rule: “the longer unemployment benefits are available the longer unemployment lasts“ (Jackman et al. 1996). Albeit, the volume of the benefits have been incrementally decreasing, the most of them are going to the less that are willing to seek jobs in the total unemployment group as it was well-documented by Bódis et al. (2005:25). This needs to be made in line with the empirical findings suggesting that the sanctions are more favourable regarding the stimulation of re-employment rate.

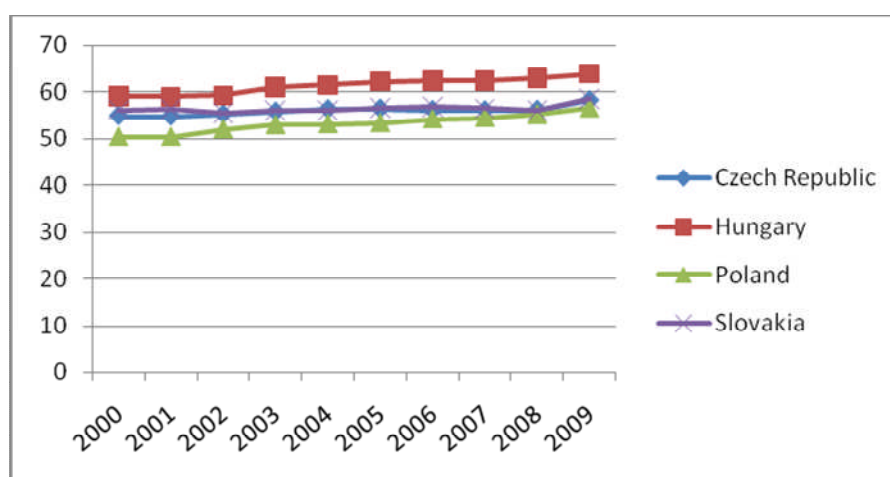
Chart 4. Real GDP growth in the Visegrad countries



Source: Eurostat

Chart 4 is entitled to contribute to the better understanding of why is it stated that the Central and Eastern European countries, including the V-4 countries, can be characterized by the so-called jobless growth phenomenon during the 2000s. Accordingly, the improving economic growth has not been translated into perceptible contraction of unemployment. Moreover, the above mentioned expansion of the tertiary sector was discernible in the region as well (*Chart 5*).

Chart 5. Employment in service sector (% of total employment)



Source: OECD, Stats.Extract

Hungary tops in the service sector's employment, which might be a potential challenge for the all-time government in reduction the unemployment rate in parallel with the heightening of the net job creation in a sustainable manner.

Conclusion

The efficacy of the EU2020 regarding the active labour market policy will depend on its real implementation. This requires that the policymakers overstep the level of sonorous words- and ideology levels. Hungary has to learn from the empirical findings of former studies on the topic of how the government could imagine the future of its active labour market policy. Moreover, Hungary has to face with the challenges originating in the imperfections of the labour policy, which should reinforce the importance of transparent job-searching mechanisms rather than financing the further spending without any deliberation on the inefficient unemployment architecture.

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The Hungarian science, technology and innovation policy in European context

Olivér Kovács

After a perceptibly sluggish period, the National Office for Research and Technology (NORT) has organized a consultation-day on 21th of September 2010 for the so-called EUREKA and Eurostars tenders. These tenders have been re-launched from August 2010 in order to foster on the one hand the R&D cooperation between domestic SMEs and foreign firms, on the other hand the industrial research and experimental development.⁸ Putatively, this initiation expressed the belatedly coming recognition of the importance of the *continuous* science, technology and innovation policy (STI) in Hungary by the new government.

This article aims to place the Hungarian STI policy into the European perspective through a short overlook of the Finnish experience and progress as a prime example of efficient STI policy invoked to ravel out the main messages for Hungary. The EU2020 is also pervaded by eloquent ascertains on future targets, but underlines more emphatically the inevitable role of the STI policy than it was before. EU policymakers have become more aware of the future's challenges which are likely to be solved by more efficient utilisation of research and development and innovation potential as well.

Main objectives of the Hungarian STI policy

The mid-term STI policy strategy (covering the period 2007-2013) and its Action Plan tended the focus on the promotion of the innovation and knowledge driven economic growth by 2013. This is expected to facilitate the entrance of domestic businesses to the global markets with more competitive products and services. The mid-term goals are fully in conjunction with the Barcelona target: 'Total R&D expenditure in the function of available budgetary sources should possibly reach 1.4% of GDP in 2010, then 1.8% of GDP in 2013. In the interest of a more favourable R&D source structure it is a goal that every *forint* from the budget turned to R&D should attract at least one *forint* of corporate expenditure. Corporate R&D expenditure within total R&D expenditure should reach 45% in 2010, and 50% in 2013' (Government, 2007:10). The Strategy's quantified targets are the following:

- Hungary's Summary Innovation Index should reach the EU average by 2013,
- employment in R&D should be increased by 20% in two steps (10% by 2010, 20% by 2013),
- sales of new-to-market products (as a percentage of all turnover) should reach 5% by 2010 and 6% by 2013,

⁸ Lots of various tenders were stopped after the setting up of the new government (such as INNOCSEKK Plusz programme, Eureka, Eurostars etc.).

- European Patent Office patents per million people should reach 24 by 2010 and 28 by 2013 (i.e. 20.5% of the EU average in 2005),
- GERD/GDP ratio should reach 1.4% by 2010 and 1.8% in 2013, and BERD/GDP ratio should reach 0.9% by 2013,
- the share of science and engineering graduates in the 20-29 age group should reach 5.5% by 2010 and 6% by 2013.

These compelling targets were not fully reached by the targeted date partly due to the deteriorating conjuncture inducing a financially frail position of the Hungarian state and affecting the disposable financial sources for R&D and innovation. Although the innovation policy could accelerate the recovery of an economy as it was discernible in the case of Finland and South Korea, the government had to provide the necessary fiscal latitude for the augmentation of R&D and innovation financial resources in each mentioned case. Hungary did not have the fiscal resilience to re-allocate the resources. The obvious signs of this were the blocking of still unpaid supports in the Research and Technology Innovation Fund, as well as the freezing of different programmes, announced by the National Office for Research and Technology in July 2010.

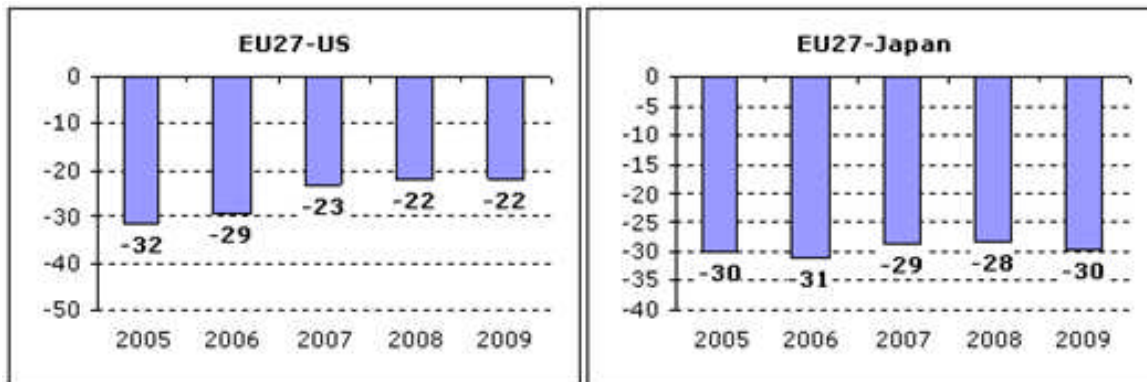
It seems that the ambience over the STI policy has been changing since July 2010, because more and more tenders (being preliminarily suspended or frozen) are open again : *EUREKA*, *Eurostars*, *Research for the benefit of SMEs / SME Associations* and the *Marie Curie* programme⁹.

The performance of the STI policy in the European Union

The long-term growth rate data of the European Union have been disappointing for the last 30 years, but policymakers have only recently started to realise that Europe's growth performance is in close connection with its weak research performance. This relationship also calls the attention to the crucial role of the higher education, especially to the universities. We can claim with reasonable certainty that there is a soupcon of decreasing in the innovation gap between the European Union and its two main competitors (*Chart 1*), the US and Japan. Despite this progress, STI policy-related international comparisons reveal that there is still much room for improvement in order to eliminate the differences and the inappropriate achievements which are undoubtedly reflected in the economic growth rates as well.¹⁰

⁹ *EUREKA*'s aim is to promote the international cooperation between domestic and foreign enterprises in the field of R&D and innovation. *Eurostars* strives to stimulate the SMEs to lead international collaborative research and innovation projects by easing access to support and funding. *Research for the benefit of SMEs* is to strengthen the innovation capacity and increase the competitiveness of small and medium-sized enterprises. The *Marie Curie* programme emphasises the importance of the training, mobility and career of the researchers.

¹⁰ What is rather telling is the PISA ranking, which illustrates that the performance of the secondary education system is around the average in the US. In this case it is very likely that the competitiveness advantage of the US is reached by the higher education performance. See more about this set of issues: PISA (2010).

Chart 1. Evolution of innovation gap among EU25, US and Japan

Note: the vertical axis represents the difference among summery innovation indices (SII).

Source: EIS (2009): European Innovation Scoreboard. Comparative Analysis of Innovation Performance, pp. 5.

While the performance gap is shrinking between the EU and its two main competitors, the economic utilisation of the innovation outcomes still lags behind in Europe (Conti – Gaulé 2009).¹¹ Importantly, innovation can contribute to the economic growth, but not just innovation expenditure counts, rather the successful economic utilisation. For example, the macroeconomic performance of the United States has permanently improved since the 1980s while the innovation activity has remained approximately in the same volume as a percentage of GDP. Effectiveness is the key factor which can be demonstrated by the university licence fees. In Europe the licence revenues are remarkably lower compared to the US (Thursby et al. 2007). We can conclude that the reason for the performance gap is the lower level of co-operation between the business sector and the universities, the lower level of industrial innovation and R&D activity, the distorting incentive system (Aghion et al. 2007), the lower level of R&D spending and the lack of autonomy at the universities in the EU.

Finland as a prime example of efficient STI policy

While Hungary can be considered as an innovation laggard, Finland can be portrayed as an innovation leader for many years with favourable outcomes. The major mainspring of the Finnish STI policy is its activism during both 'peace' and 'crisis' times aiming at the promotion of the better exploitation of innovation capacities among higher education, business sector and research institutes. The STI policy of Finland went through an *evolutive development* over the time, especially since the 1960s when the guiding principles were institutionalised by the setup of the Finnish National Fund for Research and Development.¹²

¹¹ Recent studies have underlined without exception the high significance of the higher education system (e.g. universities) behind the backlog of the European Union against the US and Japan.

¹² While the Technical Research Centre of Finland (VTT) was established in 1942, the substantial steps were predominantly achieved since the 1960s.

The economy established the basic innovation-related vision, e.g. Finland wanted from the onset of the mentioned processes to become a technology driven economy. This vision was perceptible by the time crisis swooped down on the Finnish economy in the early 1990s.

Finland as a representative of the Nordic welfare states faced an exceptional and gargantuan crisis regarding its length and depth in the early 1990s. This crisis eclipsed every downturn period in the post-World War II history of industrialised countries. The crisis was further aggravated by the collapse of bilateral trade with the (also collapsing) Soviet Union resulting in a sharp decline in the exports, and, ultimately, causing further injurious fissure on the potential of the Finnish economy (Gorodnichenko et al. 2009).

As regards the major reasons we can allude to the collapse of the Soviet Union and the lurch of the banking system. The Finnish output declined by 12.5 per cent in the 1990-1993 period (only in 1991 the contraction of GDP was 6.2 per cent). According to estimations, the lack of the bilateral linkage was able to explain 2-3 per cent of the 1991 recession (Simon – Heli 2006) when the unemployment rate began its extraordinary increase to 12 per cent by 1992, and 18 per cent by 1994 (OECD, 1995).

The Finnish government, in order to stabilise the economy, implemented a massive fiscal consolidation package supplementing it with structural reforms. Forgetting the fact that Finland was one of the Nordic welfare states with high redistribution rate and expenditures on education and health would be misleading if we want to see behind the deployed actions. Finland was able to cut significantly the expenditures flowing into the mentioned two sub-systems because their performances were well-working enough to consider the spending cuts. This made an opportunity to allocate additional financial sources into the fields of innovation and R&D which possessed a relatively well-established institutional framework.

All in all, Finland increased rather than decreased the financial resources for the objectives of STI policy bolstering the shift to a technology-driven economy during the crisis. Specifically, what we saw in Finland was the shift from knowledge-push innovation policy to demand-driven innovation policy. Let us claim *expressis verbis* that Finland had the resilience for this step, e.g., increasing the public expenditures allocated to the SMEs through tendering process, owing to the specific constellation originating in the welfare state. Additionally, Finnish decision-makers were fully aware of the horizontal manner of innovation policy which exists and influences all governmental policies, and this is completely in conformity with the imagination of the Prime Ministers' Office of Finland.¹³

¹³ See: Sustainable growth - towards well-being and better quality of life. Interim report by the Growth Initiative working group. It emphasises that: "Finland's success will depend on a high level of skills and innovative solutions in all sectors of society." Available: <http://www.vnk.fi/julkaisukansio/2010/r0110-kestavasta-kasvusta-r0210-sustainable-growth/pdf/en.pdf>
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Messages for the Hungarian STI policy

Europe faces a still significant gap between its STI policy performance and that of the US and Japan. There are certain messages which can be drawn from the history and experience of European and Finnish STI policies.

What can we learn from the Finnish experience? First and foremost that the innovation means always some unique and newfangled things at the given situation of the actors, thus we should eschew ourselves from stressing that the governments could compile a standard and efficient innovation policy toolkit from the experience of different countries' STI policy and apply it in the short run. STI policy should be based on the country specific features and has to be aware of the best practices and STI-related failures of different nations.

To this end, Hungary could draw some lessons from the Finnish experience. First of all, investment in R&D and innovation matters, but the really relevant factor is the economic utilisation of the ideas through the materialisation of products and services. The innovation policy has to be placed in the centre and it should be horizontal pervading all ministries providing an impact on public sector actions. We can rank a well-working educational system into the basic constituents of success, which was a given in case of Finland. STI policy always has to take into account the geographical and other country-specific features (e.g., Finland was a good test market for telecommunication products and services because of the high dispersion of the population). Other equally relevant factors are the well-functioning linkages among higher education, public and business sectors which partly depend on the initiatives.¹⁴ The major advantage in this relation is the better and faster *knowledge transfer* which might contribute to the acceleration of the *economic realisation* of R&D and innovation. This per se would stimulate the economy during a recession.

¹⁴ The newest action was the combination of three universities into the so-called Aalto University. From January 2010, all of the Finnish universities are in the private sector.

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