

CATCHING-UP, REGIONAL DISPARITIES AND EU COHESION POLICY: THE CASE OF HUNGARY

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Abstract

Due to the legacy of the socialist era, there is a general economic backwardness in Central and Eastern European countries (CEECs) such as Hungary with respect to the current EU Member States (EU-15). On the other hand, the transition from centrally planned economies to market economies and the ongoing integration with the EU have led to a preoccupying rise of regional inequalities within the CEECs. With the example of Hungary, which, in this respect, is close to being a “typical” transition/accession country, we try to identify the factors behind dynamic growth and catching-up to the EU-15 in some regions and falling-behind and very low per-capita levels of income in others, focussing on the ubiquitous implications of the transition process. Using empirical data for the “transition decade” of the 1990s for Hungary, we identify the “winner regions” and the “loser regions” of the transition process. By its very definition, EU cohesion policy has to address both problems (national catching-up vs. the containment of regional disparities) very attentively after EU Eastern enlargement. This is a complex issue, as regional policies often seem to face an equity-efficiency trade-off, as we shortly analyse in the paper.

Based on this analysis, we discuss how, after EU accession of Hungary, EU cohesion policy can contribute to attain higher national growth (and therefore convergence towards the EU-15) and, at the same time and central to the analysis in this paper, contribute to the decrease in regional disparities (something that traditional infrastructure policies have hardly been capable of). We use a theoretical approach that combines an endogenous growth framework with new economic geography. The model we use shows that – in contrast to transport infrastructure policies – a policy that reduces the cost of innovation or increases the diffusion of innovation is able to reduce regional income inequality, agglomeration and increase the national growth rate. The regional policies involved could be primarily subsidies for research and technological development, investment in human capital or ICT infrastructure. In the final two sections of the paper, we question whether these regional policy prescriptions would fall on fertile soil in light of Hungary’s economic reality, and which could be promising EU cohesion policy schemes to incorporate an innovation-oriented regional policy approach.

1. INTRODUCTION

Since 1 May 2004, the European Union has 25 Member States. The enlarged EU is heavily characterised by the great economic and social differences between the “old” and the “new” Member States. Moreover, the transition from centrally planned economies to market economies and the ongoing integration with the EU have led to a preoccupying rise of regional inequalities within the Central and Eastern European countries (CEECs) – these will be difficult to reduce, too. Both problems will pose a major challenge to the Union – it is obvious that EU Eastern enlargement may not and cannot leave the Community's cohesion policy, as currently embodied by the Structural Funds and the Cohesion Fund, unchanged. Not only will there have to be a major reorientation of this policy towards new key priorities that are most growth- (and thus catching-up-) enhancing, but also a policy approach taking account of the strongly increased regional disparities within the new Member States. However, this issue has been neglected in the enlargement process and the European Commission's proposals concerning the future priorities of its regional and structural policy operations do not point towards any major changes.

By its very definition, EU cohesion policy has to address both problems – national catching-up vs. the containment of regional disparities – very attentively after EU Eastern enlargement. This is a complex issue, as regional policies often seem to face an equity-efficiency trade-off. How can EU cohesion policy contribute to attain higher national growth (and therefore convergence towards the EU-15) and, at the same time and central to the analysis in this paper, contribute to the decrease in regional disparities (something that traditional infrastructure policies have hardly been capable of)? Which are the regional policy prescriptions that a theoretical analysis yields? Are these prescriptions difficult to put into practice? And to what extent have they already been put into practice?

The remainder of this paper is organised as follows: In Section 2, we shed light on the economic disparities between the accession countries and the EU-15. In Section 3, we analyse the growing regional disparities within the new Member States, with the example of Hungary, our case study throughout this paper. The equity-efficiency trade-off regional policies often seem to face is looked at in Section 4. In Section 5, we analyse in detail a theoretical case for an innovation-oriented regional policy, and in Section 6 we question how these regional policy prescriptions perform in light of Hungary's economic reality. In Section 7 we ask what could be the contribution of current and future EU cohesion policy schemes. Section 8 shortly concludes.

2. ECONOMIC DISPARITIES BETWEEN THE ACCESSION COUNTRIES AND THE EU-15

The former communist countries have lost out on at least half a century of “normal” economic development. The nature of their growth built serious structural distortions into their economies, which made them highly inefficient, compared to Western Europe. The planning mechanisms in place prior to 1990 inhibited total factor productivity (TFP) growth. By the eve of transition, inefficiencies and shortages were pervasive, labour and capital fundamentally misallocated, and the range and quality of goods and services produced left much to be desired (Dabrowski, 2001, p. 2; Doyle et al., 2001, pp. 4-5). As a result, the ten

CEECs applying for EU membership after the end of the Soviet system¹ revealed huge economic backlogs, especially in terms of GDP per capita.

Table 1 shows that all the CEECs have a per capita GDP very far below the EU-25² average and, with the exception of Slovenia, even significantly below the least developed present Member States (Portugal and Greece). Hence, under the current rules, nearly all the regions in the CEECs would be eligible for funding from the EU's regional policy.³

Table 1: GDP in the accession countries: annual growth rates and the level relative to the EU-15

	GDP real (compound) annual growth rates (in %)			GDP per capita in PPS, level (in % of EU-25)		
	1996-2000	2001	2002	1995	2000	2004
Bulgaria	-1.3	4.0	4.3	30	27	32
Czech Republic	0.9	3.2	2.0	68	61	65
Estonia	5.1	5.0	5.6	33	41	48
Hungary	4.0	3.7	3.3	48	54	61
Latvia	4.7	7.9	6.1	28	35	43
Lithuania	3.2	5.9	5.9	33	39	48
Poland	5.2	1.0	1.3	38	44	47
Romania	-1.6	5.7	4.9	30	25	32
Slovakia	4.6	3.3	4.4	43	48	56
Slovenia	3.9	3.0	3.0	62	73	77
EU-25				100	100	100

Sources: European Commission (2001b, p. 16); European Commission (2003b, p. 48); Podkaminer et al. (2004, p. 38).

The CEECs have had sustained solid growth for several years (see Table 1) and are likely to continue to outperform the EU-15 (i.e. the old Member States) in terms of GDP growth (see the wiiw estimates in Podkaminer et al., 2004, p. 38). Nevertheless, it will take the “best performers” among them 10 to 20 years and others like Bulgaria, Romania and Poland even around 30 years from now to reach only 75% of the EU-25 average (to say nothing of the EU-15 average itself), as growth and catching-up scenarios which have been calculated e.g. by the European Commission (2001b) and the World Bank (2000) have shown. EU cohesion policy will thus have to respond to the greatest challenges since its inception, if the new Member States are to be supported in their catching-up process and the Treaty objectives of “economic and social cohesion” achieved in an enlarged EU.

Among all the CEECs, Hungary is clearly one of the most successful transition/accession countries in terms of macroeconomic stabilisation, foreign direct investment (FDI) inflows and GDP growth. From 1989 to 1993, Hungary's GDP fell by about 20 per cent, real personal incomes even decreased by 37 per cent between 1987 and 1995 (experiences shared by many other transition countries). In 1994, the “transition crisis” with negative GDP growth was finished and Hungary reached the “turnaround”, with continuous and considerable growth rates, especially from 1997 onwards. Between 1997 and 2002, Hungarian annual GDP growth averaged at an impressive 4.3 per cent. By 1999, GDP had reached its 1989 (= pre-transition)

¹ Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia.

² EU-25 includes the eight accession countries from Central and Eastern Europe plus Cyprus and Malta (i.e. all the countries that acceded on 1 May 2004).

³ Currently, regions whose per capita GDP is less than 75% of the EU average are eligible for “Objective 1” structural funding. Countries whose per capita GDP is less than 90% of the EU average are eligible for support from the EU Cohesion Fund.

level. For 2003 and 2004, the European Commission in its Spring 2003 forecast expects an average GDP growth rate of 3.9 per cent (European Commission, 2003b). Hence, looking at GDP (per capita) growth, Hungary has clearly outperformed the EU-15 (where growth has been sluggish not only recently) for some years and is likely to continue to do so. Yet, its GDP per capita currently amounts to still less than 60 percent of the EU average and thus only corresponds to that of the by far poorest regions of the EU-15 (such as Ipeiros in Greece or the Açores in Portugal). And what is more, Hungary's successful transition and economic growth came at the expense not only of growing interpersonal income inequalities, but especially, as Section 3 will show, of growing interregional disparities, i.e. increasing income inequalities between the country's regions.

3. GROWING REGIONAL DISPARITIES WITHIN THE NEW MEMBER STATES: THE CASE OF HUNGARY

In this chapter, too, we will focus on Hungary as a "case study". Yet, regional disparities increased in all of the transition countries, and many regional patterns of Hungary are at the same time general regional patterns of the East-Central European transformation of the last 15 years. Hence, much of what can be said about Hungary, the dominant role of its capital city, the problems of its Eastern regions etc. could be equally said about other new EU members such as Poland, Slovakia or the Czech Republic.

The transformation of the CEECs from centrally planned economies to market economies as well as the increasing economic integration with the EU have led to the creation of new spatial patterns of economic disparities in these countries. Under the socialist system of centrally planned economies, rapid industrialisation had been associated with urbanisation in less-developed regions and an effort to spread industrial/urban growth. As a consequence, a general tendency towards regional economic convergence could be observed during the 1948-1989 period. As market economic systems have been widely introduced and the transition has been largely completed, the uneven spatial impact of intense economic reforms and integration with Western Europe is becoming more and more evident – widening disparities between and within countries characterise the overall picture (Bachtler et al., 1999, p. 8).

Several studies (e.g. European Commission, 2001a; Petrakos, 2000) confirm that throughout the last decade the accession countries witnessed increasing regional disparities. Growing empirical evidence (e.g. Bachtler et al., 1999; European Commission, 2001a; Petrakos, 2000; Resmini, 2002) points to one type of winner and to two types of losers among the accession countries' regions: in this admittedly simplified dichotomy, the metropolitan and urban areas (namely the capital city regions) belong to the former group, the rural and old (declining) industrial areas as well as those in the Eastern peripheries belong to the latter group (Bachtler et al., 1999, p. 8; Iara and Traistaru, 2003, p. 5). The regions bordering the EU have developed very dynamically in Hungary and Slovakia (where the region bordering the EU is at the same time the capital city region), but much less so in other transition countries (Lammers, 2003, pp. 222-224). Hence, the development of this "category" of regions has to be judged in a case-related manner. In Hungary, all these regional patterns of transformation into a market economy became evident quite soon after the transition process had set in.⁴

⁴ Clearly, Hungary's new spatial patterns follow the organic, historically born pre-socialist spatial structure, in which the division line was the Danube River: in the regions West of the Danube, more industrialised areas following (Western) European trends had evolved before World War II, whereas in Eastern Hungary agriculture had always been the dominant factor in shaping the economic structure. Whereas the Western Hungarian regions

The capital city regions of the Czech Republic, Hungary, Slovakia, Estonia and Latvia play the most dominant core roles. In all of these countries, there is no centre that could rival the capital city. In the Czech Republic the disparity between Prague (which, in 2000, had already reached a level of 133% of the average EU-25 GDP per capita, see European Commission, 2003a) and the remainder of the country is still increasing.

The new regional pattern that has emerged in Hungary as a consequence of the transition process can be briefly characterised as follows: economic growth became concentrated in a small number of metropolitan and Western areas of Hungary, whereas a large number of regions witnessed the erosion of their production capacity and their potential to grow and transform seemed to vanish.

Iara and Traistaru (2003) find evidence for increasing regional manufacturing specialisation and increasing regional GDP differentials in Hungary. On the basis of taxable income, Nemes-Nagy (2000, pp. 171-174) has examined the change in intranational (i.e. interregional) income dispersion at various levels of spatial aggregation for the end of the 1980s and roughly the first half of the 1990s (the “transition decade”), i.e. the years 1988-1996. The spatial levels of the analysis are:

- seven planning-statistical regions (the proposed NUTS 2⁵ units);
- 19 counties and the capital, Budapest (NUTS 3 units, actual regional authorities);
- 150 statistical microregions;
- 3,100 settlements, i.e. local authorities.

Table 2: Regional inequalities in taxable income per capita at various levels of spatial aggregation: the case of Hungary

Years	Weighted standard deviation (in %)			
	Settlements	Microregions	Counties	Regions
1988	25.4	22.2	19.6	17.3
1989	27.6	24.0	21.2	18.5
1990	30.2	26.1	23.1	19.9
1991	30.8	25.5	21.2	17.9
1992	34.6	29.8	26.4	22.1
1993	35.6	30.8	27.1	22.7
1994	36.5	31.5	27.7	23.5
1995	35.9	30.7	26.7	22.6
1996	35.7	30.5	26.4	22.3

Source: Nemes-Nagy (2000, p. 174).

Table 2 shows that interregional income inequalities increased at all levels of aggregation in Hungary between 1988 and 1994. In 1995 and 1996, the figures show relative stability, albeit on a much higher level. Yet, neither in Hungary nor in other transition countries did the increase in interregional income inequalities come to a halt in 1995 – it continued during the second half of the 1990s. Samecki (2003, p. 2) e.g. finds that “between 1995 and 2000 the

could build on their historical, market-oriented development in the 1990s, Eastern Hungary’s heritage of a large socialist monocultural company system transformed that part of the country into a crisis zone (Hrubi, 2002, pp. 62-63).

⁵ “NUTS” stands for “Nomenclature des unités territoriales statistiques”. This nomenclature of territorial units was drawn up to be a single, cohesive system of territorial groupings for the compilation of EU regional statistics. The NUTS nomenclature subdivides the EU economic territory into regions at three different NUTS levels.

diversity between the most prosperous and the least prosperous regions in the Member States of the EU-15 increased on average by only 2%, while the average increase in this diversity in the Visegrad group⁶ amounted to 20%.” Table 3 shows the diversities measured as the ratio of GDP per capita at PPS between the richest and the poorest region in the Visegrad group countries as well as in some “typical” current EU Member States.

Table 3: Income disparities between the richest and the poorest region in the Visegrad group countries and in some current EU Member States

Country (1)	Most prosperous region (2)	Least prosperous region (3)	Ratio (2)/(3) in GDP/head (PPS), 1995 (4)	Ratio (2)/(3) in GDP/head (PPS), 2000 (5)	Change (4)/(5) (from 1995 to 2000) (6)
Poland	Mazowieckie	Lubelskie	1.64	2.21	+35%
Hungary	Közep-Magyarország	Észak-Alföld	2.02	2.40	+19%
Czech Republic	Prague	Stredni Morava	2.36	2.69	+14%
Slovakia	Bratislava	Vychodne Slovensko	2.51	2.76	+10%
Ireland	Border, Midland & Western	Southern & Eastern	1.44	1.51	+5%
Italy	Trentino-Alto Adige	Calabria	2.25	2.19	-3%
Germany	Hamburg	Dessau	2.88	2.83	-2%
Belgium	Brussels	Hainaut	3.00	3.07	+5%

Source: European Commission (2003a); Samecki (2003, p. 2).

Not only did regional disparities within the Visegrad countries sharply increase, but they also reached a considerable level in absolute and relative terms (in spite of having been relatively low at the beginning of the 1990s due to the aforementioned reasons): as Table 3 shows, the ratios of GDP per capita at PPS between their richest and their poorest regions are already bigger than that of Italy (a country known for its huge interregional disparities) and even approach the very special case of Germany with its Western and Eastern parts. More than before the transition process, Hungary is characterised by an East-West divide, but also by a core-periphery disparity caused by the economic dominance of Budapest (Bachtler et al., 1999, p. 72; Cséfalvay, 1997, p. 64). Gorzelak (2000, p. 135) illustrates Hungary’s new regional patterns with the following typology (Table 4):

Table 4: Typology of Hungarian regions under transformation

	Position in the post-socialist transition and EU integration process		
		good	bad
Position in the socialist economy	good	positive continuity (“the leaders”), e.g. great urban agglomerations, mainly the capital city	negative discontinuity, e.g. (old) heavy industry regions facing massive restructuring
	bad	positive discontinuity (“the newcomers”), e.g. Western regions, mainly those bordering EU countries like Austria	negative continuity, e.g. the “Eastern Wall”, i.e. the Eastern peripheries with Ukraine or Romania as neighbours

Source: Gorzelak (2000, pp. 135-139).

⁶ The Visegrad group consists of Poland, Hungary, the Czech Republic and Slovakia.

3.1 Budapest and the Western regions bordering Austria: “the winners”

Budapest and the Western regions bordering Austria were able to benefit from the transition process and the relocation of manufacturing activity and investment: many new companies, massive inflows of FDI and relatively low unemployment rates can be found in these areas. Generally speaking, Budapest and Hungary’s Western parts are characterised by good infrastructure links (e.g. the M1 motorway), dynamically growing private sector activity and by a great number of international joint ventures which act as connections to international networks (Bachtler et al., 1999, p. 74; Horváth, 2002, p. 131). Whereas Budapest has attracted basically tertiary activities (mainly financial services), the counties of Győr-Moson-Sopron and Vas have become centres of specialised industrial mass-production (Rechnitzer, 2000, p. 14).

In the mid-1990s already, Budapest had more joint ventures than the remainder of Hungary combined and nearly two-thirds of all FDI flowing into Hungary went to Budapest (Bachtler et al., 1999, pp. 10 and 72). During the 1990s, the capital city could not only retain its advantage over the rest of the country, but has further increased it. The Budapest agglomeration has thus strengthened its dominance (Horváth, 2002, p. 131). In fact, the Budapest region shows an outstanding performance with respect to income growth, the employment level and structure. Hungary’s capital city is the clear centre of the country’s service sector activity, with over 70 percent of Budapest’s total employment being now in the tertiary sector. Moreover, Budapest accounts for more than 50 percent of Hungary’s employees in research and development (Bachtler et al., 1999, pp. 71-72). All of this however includes mainly Budapest, geographically close counties such as Nógrád or Pest were not able to benefit from Budapest’s dynamic development.

Having been neglected for political-military reasons during the heavy industrial stage of socialist industrialisation, the Austrian border regions could enter the transition and EU integration period with a less obsolete and more flexible economic structure. In these Western regions, large-scale investment from EU and Hungarian companies transformed the various counties (Győr-Moson-Sopron, Vas, Zala) into a zone of dynamic activity, even if, geographically speaking, they are a periphery.⁷ The complete opening of borders served as a catalyst for changes in the spatial structure: cross border co-operation began to replace the state monopoly and centrally organised international relations, massive FDI inflows (especially greenfield investment) played a significant role in the radical transformation of the regional pattern (Nemes-Nagy, 2000, pp. 171-176; Nemes-Nagy, 2001, pp. 52-54). The most significant factors of economic growth were thus the external activating effects of the relatively close, economically powerful South German, Austrian and North Italian regions (Nemes-Nagy, 2000, p. 179).

In the city of Győr, for example, situated exactly halfway between Vienna and Budapest along excellent rail and road links, Hungary’s first greenfield industrial site, the local business park, was opened already in 1991. Its geography and its well-educated and motivated workers have been and still are Győr’s main selling points. The city could attract big investors such as Audi, Philips and Amoco Fabrics. Even now that most of the multinational investors are already there and only very few more come, Győr still attracts investors, this time of another kind: often home-grown companies, smaller, more diverse, requiring highly-educated people, whereas the big manufacturers have upgraded their production lines and added research and

⁷ In economic terms, Hungary’s Western “periphery” can’t be considered a periphery – together with Budapest, it should rather be considered the most dynamic part of the country

development (R&D) units. Like Győr, Western Hungary in general is trying to “move up the value chain” (Condon, 2004, p. 2).

3.2 Rural areas, the old heavy industry regions and the Eastern, Southern and Northern peripheries: “the losers”

Rural, old (declining) industrial areas and Eastern and Southern peripheries have suffered from the closure of outdated, inefficient firms and from the deteriorating economic situation in the neighbouring regions of Ukraine, Romania and Ex-Yugoslavia (Bachtler et al., 1999, pp. 5-14; Iara and Traistaru, 2003, pp. 2-4). Along Hungary’s Eastern and Southern borders, networks of illegal businesses sprang up: many economic activities are illegal.

The Eastern periphery (e.g. the counties of Szabolcs-Szatmár-Bereg and Hajdú-Bihar) suffers from a regional crisis in the manufacturing and agricultural industries which had been producing for the Soviet market: three Eastern Hungarian industrial counties account for around 35 percent of the country's total unqualified and unemployed workers. The employment power of the weak service sector is still far too low to absorb those who lost their jobs due to the systemic change. The Southern border counties like Bács-Kiskun have been negatively affected by the Balkan crisis. Hungary’s Northern counties struggle with their obsolete heavy industrial base (Nemes-Nagy, 2000, pp. 171-176; Nemes-Nagy, 2001, pp. 52-54). In all those areas that had been dependent on heavy industry, the privatisation process started late (or didn’t start at all) (Rechnitzer, 2000, p. 15) and consisted essentially of investors picking out the (very few) big companies that were viable.

In general, Hungary’s Southern, Northern and (North-) Eastern counties have comparatively poor infrastructure connections, small numbers of joint ventures and a very weak private sector (Bachtler et al., 1999, p. 74). Among other factors, it is the lack of favourable transport connections that makes regions like North-East Hungary and the Great Hungarian Plain far less competitive (Rechnitzer, 2000, p. 18). Hungary’s Southern, Northern and (North-) Eastern border regions are all peripheries, their economic sources and potential are still moderate and limited (Rechnitzer, 2000, p. 39).

3.3 A first look on future perspectives for regional development in Hungary

The new regional patterns just described have been clearly a result of the transition from a centrally planned to a market economy, as well as a result of the beginning of intense economic integration with the EU. Now that the transition process has been largely completed and Hungary has reached a degree of trade integration with the EU that even some “old” members haven’t reached, we have to ask whether the evolved spatial pattern of economic activities in Hungary is a transitional or rather a permanent one.

It seems that the most dynamic Hungarian regions, i.e. Budapest and the Western counties have built by now the basis for utilising their increased indigenous potentials (the location advantage, the attraction and weight of the market, innovative capacities etc.), thus enabling them to benefit from sustainable endogenous regional development in the future. Hence, the lead of those regions over the rest of the country seems rather permanent. Yet, parallel to the

development of the early 1990s, some multinational companies might close down their plants and move further to the East, in order to benefit from lower wages there (Nemes-Nagy, 2000, p. 183). There are already first signs of FDI and economic activities moving Eastward. Some companies that previously located in Western Hungary are now moving to cheaper destinations (in 2002 and 2003, real wages in Western Hungary have risen by more than 20 per cent) such as Slovakia (Condon, 2004, p. 2), but also to Eastern Hungary.

Besides such factors, the development of the lagging regions' neighbouring countries (Slovakia, Ukraine, Romania, Serbia) is of crucial importance for Hungary's less developed counties. Domestic regional policy schemes have not yet been able to improve the situation of these lagging regions (Nemes-Nagy, 2000, pp. 183-184). This is also due to the fact that so far, Hungarian regional policy has taken to a large extent a "laissez faire" approach (Cséfalvay, 1997, p. 108) and regional lobbies haven't developed yet (Rechnitzer, 2000, p. 65). As future EU cohesion policy interventions will be substantially directed to Hungary's disadvantaged counties and as those interventions traditionally take on more of a redistributive approach (Cséfalvay, 1997, pp. 54-55), they might play a big part in trying to improve their situation. Yet, neither international resources nor central governmental funds alone will be able to make the lagging regions catch up. Ultimately, the disadvantaged regions, too, will have to be able to start a process of endogenous regional development, and local innovative power will be of particular importance (Nemes-Nagy, 2000, p. 184).

4. DO REGIONAL POLICIES FACE AN EQUITY-EFFICIENCY TRADE-OFF?

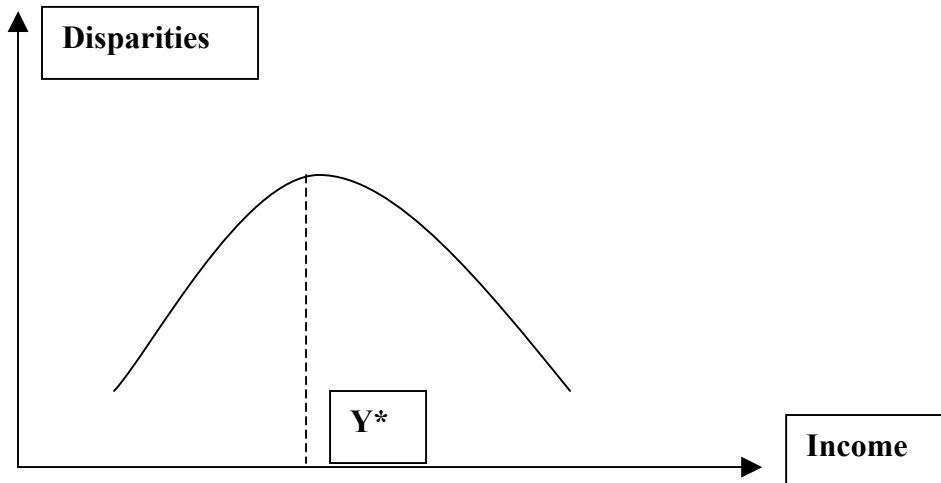
Literature on European economic integration (e.g. Martin, 2002; Lammers, 2002 and 2003) reveals that in Western Europe there has been a certain degree of convergence on the country level (i.e. between the GDP per capita of the Member States) over the past decades, but this national convergence came along with increasing interregional disparities. Since the mid-eighties income inequalities among Member States have diminished by 25 percent, but regional inequalities within the Member States have gone up by 10 percent. As a result, the majority of regional inequalities in Europe can be explained by inequalities within countries (Martin, 2002, p. 2). Quah (1996) finds that, among the cohesion countries (Greece, Portugal, Spain and Ireland), Portugal and Spain, who managed to converge toward the average EU GDP per capita, have also witnessed the most marked rise in regional divergence. Davies and Hallet (2002) confirm this result for Spain and Ireland (the regional disparities of the latter however still being fairly limited).

In the EU accession countries, there is a certain degree of convergence with respect to the average EU-15 GDP per capita, as growth in these countries taken together has been around 1.5 per cent a year above the EU average since the mid-1990s (European Commission, 2004, p. viii), but regional disparities within Poland, the Czech Republic, Hungary etc. have been and still are increasing. Hungarian GDP per capita amounted to 48 per cent of the EU-25 average in 1995, to 54 per cent in 2000 and is at roughly 61 per cent in 2004 – at the same time, interregional income inequalities within Hungary increased at all levels of spatial aggregation in the 1990s, as we have shown in Section 3.

In an early contribution, Williamson (1965) provided a formulation of the potential trade-off between national and regional development, predicting "increasing divergence among geographic units *within* national borders and perpetuation of "pôles de croissance"" (Williamson, 1965, p. 5) in catching-up countries, whereas later during the course of

development, “instead of divergence in interregional levels of development, convergence becomes the rule” (Williamson, 1965, p. 9). According to the Williamson hypothesis, the relationship between national growth and regional inequalities takes the form of an inverted U-curve (see Figure 1).

Figure 1: The Williamson hypothesis: the inverted U-curve



Source: Williamson (1965, pp. 9-10); Davies and Hallet (2002, p. 5).

Williamson’s main argument is that in the catching-up process of countries, interregional linkages, factor movements and public policies interact in favour of growth pole effects and the main agglomerations. Hence, more rapid growth in the growth pole areas (e.g. the capital city regions) leads to an increase of regional disparities. In later stages of development, however, regional disparities may decrease due to a higher aggregate level of income and spread effects: diseconomies of agglomeration (e.g. high labour costs or congestion effects) may emerge in the growth poles, and the lagging regions of the by now mature country might benefit from technological diffusion (Williamson, 1965, pp. 3-10; Davies and Hallet, 2002, pp. 4-5).

Most economists would probably classify the new EU Member States in Central and Eastern Europe under the heading “catching-up countries”: hence, in Williamson’s scheme, they would belong to the group of countries experiencing increasing regional disparities, and they would find themselves to the left of the income level Y^* in Figure 1. This classification seems to be justified, because in the CEECs public investment is often focused on the main agglomerations and the maximisation of national growth (i.e. national catching-up) is mostly given priority, at the expense of lagging, peripheral regions. In later stages, the priorities may be shifted and given to spatial equity.

It is very likely that, thanks to the strong mechanisms of convergence implied by deep economic integration, a certain degree of national convergence towards EU income levels will occur in the CEECs. However, further market integration in the context of EU Eastern enlargement will also foster divergence forces in the accession countries and hence lead to a further increase in regional disparities. Hence, the Community and the (old and new) Member States will have to elaborate a cohesion policy approach that is able to contribute to the catching-up process of the CEECs and, at the same time, to the containment of regional disparities within the new Member States. This task will have to go hand in hand with a

reorientation of the contents of cohesion policy, and with a better management of the Funds. This is even more true in view of the fact that firstly the EU has firmly established the objective of “economic and social cohesion” in its policies⁸, that secondly the huge widening of regional economic disparities brought about by the upcoming enlargement will present an unprecedented challenge for the EU's economic and social cohesion and that thirdly existing cohesion policy schemes have at best contributed weakly to the convergence of national economies in Western Europe in the recent past, but could not avoid the increase of regional inequalities.⁹

Regional policies seem to face a trade-off between equity and efficiency, and policy makers seem to be confronted with the choice between the objective to foster national catching-up and thus national growth and efficiency or to decrease inequalities between the different regions inside countries and therefore enhance a balanced development and spatial equity. In the case of the acceding CEECs, this suggests that it will be difficult to attain through these policies the objective of higher national growth (and therefore convergence towards the EU-15) and at the same time the objective of a decrease in regional inequalities. Yet, the European Commission aims to achieve both objectives with its current policies and justifies its regional interventions not only on equity grounds (see above), but also on efficiency grounds – according to its First Report on economic and social cohesion, “the disequilibria indicate under-utilisation of human potential and an incapacity to take advantage of the economic opportunities that could be beneficial to the Union as a whole” (European Commission, 1996). In its Third Report on economic and social cohesion, the European Commission (2004, pp. vii-viii) takes up the same argument, stating that “the cost of not pursuing a vigorous cohesion policy to tackle disparities is, therefore, measured not only in terms of a loss of personal and social well-being but also in economic terms, in a loss of the potential real income and higher living standards.”

This efficiency argument is much less clear than the equity based motivation: It may demand more or less spatial concentration (and hence regional inequalities) – on the one hand, there are the economic gains produced by agglomeration processes, and on the other there can be over-agglomeration and congestion. According to the theories of new economic geography and endogenous growth efficiency gains (in terms of economies of scale or localised technological spillovers) accrue from economic agglomerations – and hence from an economic geography often characterised by significant regional inequalities. The EU Commission might be wrong in thinking that containing regional disparities will lead to a higher overall growth rate in the EU, hence to EU-wide efficiency gains. Indeed, the empirical evidence in Europe (convergence of countries, divergence within countries/between regions) and the transition process in the CEECs clearly tell another story: a trade-off between equity and spatial efficiency appears inevitable.

One of the central aims of this work is to derive whether on theoretical grounds (mainly on the basis of new economic geography and endogenous growth theory models) there is an approach to regional policy able to foster the catching-up process of the CEECs and, at the same time, take account of the increased regional disparities within the new Member States.

⁸ Article 158 of the Treaty establishing the European Community states that “in order to promote its overall harmonious development, the Community shall develop and pursue its actions leading to the strengthening of its economic and social cohesion. In particular, the Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions or islands, including rural areas.”

⁹ Overall many authors (e.g. Boldrin and Canova, 2003; Arevalo, 2002; Ederveen et al., 2002) criticise the lack of effectiveness of current EU regional and structural policy schemes.

The respective model will be developed in the following section. It will be shown that there is a cohesion policy approach able to reconcile the two objectives of reduced regional disparities and a higher national growth rate or, in other words, to solve the equity-efficiency trade-off cohesion policy seems to face. However, only under certain conditions do these theoretical results have real-life economic policy implications, as we have to scrutinise whether their main underlying assumptions and their results are compatible with the economic realities of Hungary – our “case study country” – and its accession to the EU.

5. A THEORETICAL CASE FOR AN INNOVATION-ORIENTED REGIONAL POLICY

Martin (1999) shows that some regional policies such as subsidies to poor regions or the reduction of transaction costs within the poor region can have unfortunate consequences, including a reduction in the rate of growth, or the same effect coupled with an increase in income inequalities, or the relocation of firms to the richer regions. However, a policy that reduces the cost of innovation or increases the diffusion of innovation reduces regional income inequality, agglomeration and increases growth.

Based on Martin (1999), we use a two-region theoretical scheme – firms can locate either in the capital-rich region (in our case e.g. the capital city region of Budapest) or in the “poorer” region (e.g. Borsod-Abaúj-Zemplén, which is situated at the North-Eastern periphery of Hungary and is one of the poorest Hungarian counties). The geographical concentration of firms in the rich region increases when transaction costs between the regions fall. The logic (which is common to the approaches of new economic geography, e.g. Krugman, 1991) is that it is always more profitable to produce in the richer area, the larger market, in order to maximise the benefits of economies of scale. When transaction costs between the regions fall, businesses can then exploit these economies of scale while also selling on the “small market” now less protected by high transaction costs. Moreover, when regional inequality in terms of income increases, regional inequality in terms of spatial distribution of firms (industrial agglomeration) likewise increases, since economies of scale encourage firms to locate where demand is strongest and thus income highest. Equilibrium geography is such that the profits of businesses are identical in both regions, which eliminates any incentive to relocate. This relationship, which can also be called the “home market effect”, can be written as follows:

Equation (1): $A = A(R)$ (→ curve AA in Figure 2),

where $A(R)$ is a growing function of R and where A is an agglomeration index (e.g. the ratio of the number of firms in the rich region to the total number of firms). R is an index of inequality of regional incomes (e.g. the ratio of income in the rich region to income in the poor region, hence very similar to the ratio calculated in Table 3, see above).

Spatial concentration in turn has an impact on the rate of innovation and hence on the long-term growth of the overall economy, because the cost of innovation in the richer region falls as the agglomeration of economic activities increases (due to positive externalities arising from spatial concentration, the existence of localised technological spillovers etc.). In fact, geographical concentration of production activities increases opportunities to reduce the cost of innovation and consequently to increase its rate of growth, with beneficial effects for the territory as a whole. In endogenous growth models this is an equilibrium relationship, because when the cost of innovation falls this induces new entrepreneurs/researchers to enter the

innovation market (which is seen as being competitive). This relationship between the long-term growth rate and the agglomeration index – which can also be called “spillovers effect” – is shown by the following equation:

$$\text{Equation (2): } g = g(A) \quad (\rightarrow \text{ curve SS in Figure 2}),$$

where $g(A)$ is an increasing function of A , the index of industrial agglomeration.

The rate of innovation itself has an impact on regional income inequalities: a high rate of innovation accelerates market entry by new businesses, which then compete with existing businesses and hence reduce their profits. One effect therefore is to reduce existing incomes. From this point of view, an increase in the rate of innovation reduces income disparities between regions by reducing the profits of monopolistic firms, which are more numerous in a rich region. This last equilibrium relationship (“competition effect”) is encapsulated in the following relationship:

$$\text{Equation (3): } R = R(g) \quad (\rightarrow \text{ curve RR in Figure 2}),$$

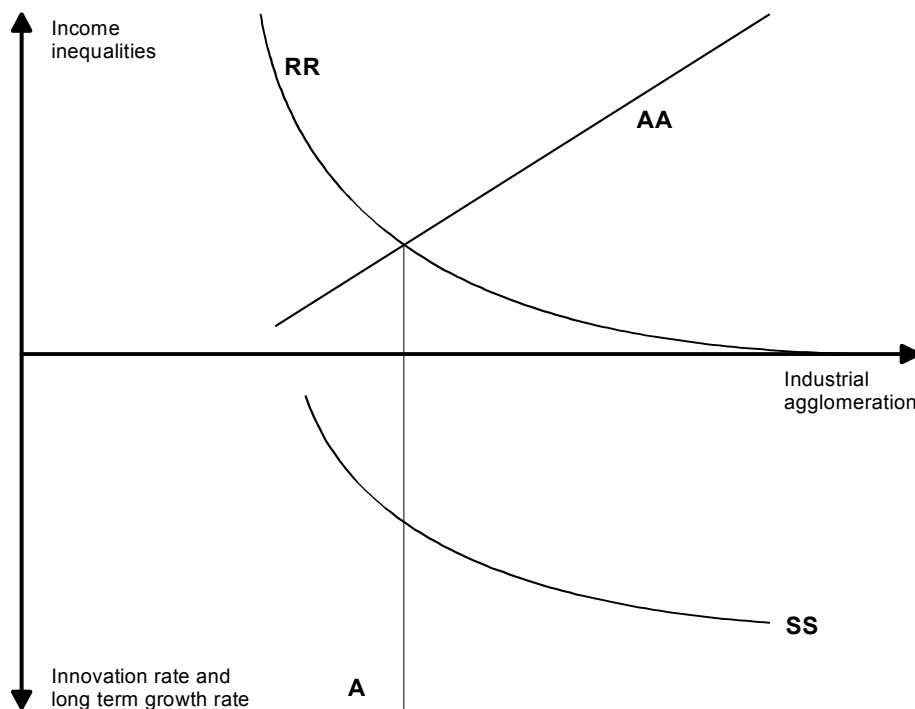
where $R(g)$ is a negative function of the growth rate g .

Figure 2 sums up these different equilibrium relationships. The upper part shows the spatial equilibrium, where income inequalities and industrial agglomeration are determined. The curve AA shows that agglomeration tends to increase when income inequalities increase, because firms locate in markets with high purchasing power (*Equation 1*).

The curve RR shows that when industrial agglomeration increases competition intensifies, thereby tending to reduce the profits of monopolistic businesses and income inequality between regions (*Equations 2 and 3*). The equilibrium level of agglomeration and the equilibrium level of income inequality is indicated by the intersection of the two curves AA and RR.

The lower part of the graph shows how spatial equilibrium in its turn influences the rate of innovation. The equilibrium level of agglomeration A is given by the spatial equilibrium. The curve SS shows the positive relationship between innovation and agglomeration, due to the existence of localised spillovers (*Equation 2*). The equilibrium rate of innovation and the equilibrium level of income inequalities are indicated by the intersection of the line A and the curve SS.

Figure 2: Relationship between innovation, regional income inequalities and agglomeration



Source: Martin (1999, p. 14).

Martin (1999, pp. 16-17) shows that a simple monetary transfer (e.g. a subsidy) from the richer region, say Budapest, to the poorer region, e.g. Borsod-Abaúj-Zemplén county, ultimately reduces agglomeration and income inequalities between the two, but it reduces the national growth rate, too:

$$R(g) \downarrow \rightarrow A(R) \downarrow \rightarrow g(A) \downarrow.$$

It is needless to say that this is hardly an efficient outcome, in the truest sense of the word.

More often, EU cohesion policy comes in the form of funding allocated to the financing of (transport) infrastructure i.e. with the objective to reduce transaction costs and to bring remote regions closer to the Single Market. The analysis of the economic impact of large-scale infrastructure investment depends largely on the question whether the investment leads to reduced transaction costs within the poorer region or to reduced costs between the regions. If the result is a reduction of transaction costs **within** the receiving region, increased effective local demand for locally produced goods will attract new companies into this lagging region, say Borsod-Abaúj-Zemplén. Martin (1999, pp. 17-19) shows that in this case, Borsod-Abaúj-Zemplén would benefit from reduced industrial agglomeration (manufacturing processes being now more dispersed), but the innovation rate and hence the national growth rate would be lower. In addition to this, regional disparities would increase, as firms in Budapest, now facing less competitors, would increase their profits:

$$A(R) \downarrow \rightarrow g(A) \downarrow \rightarrow R(g) \uparrow.$$

This example shows that industrial location disparities do not always go hand in hand with regional income inequalities.

If however the infrastructure project contributes to reduce the transaction costs **between** Budapest and Borsod-Abaúj-Zemplén, the opposite happens: Firms from Borsod-Abaúj-Zemplén are encouraged to move to Budapest, where they can exploit economies of scale, while continuing to sell their products in Borsod-Abaúj-Zemplén, thanks to the reduced transaction costs between Budapest and Borsod-Abaúj-Zemplén. With competition in Budapest increasing, monopolistic business profits and hence income inequalities between Budapest and Borsod-Abaúj-Zemplén are ultimately reduced.

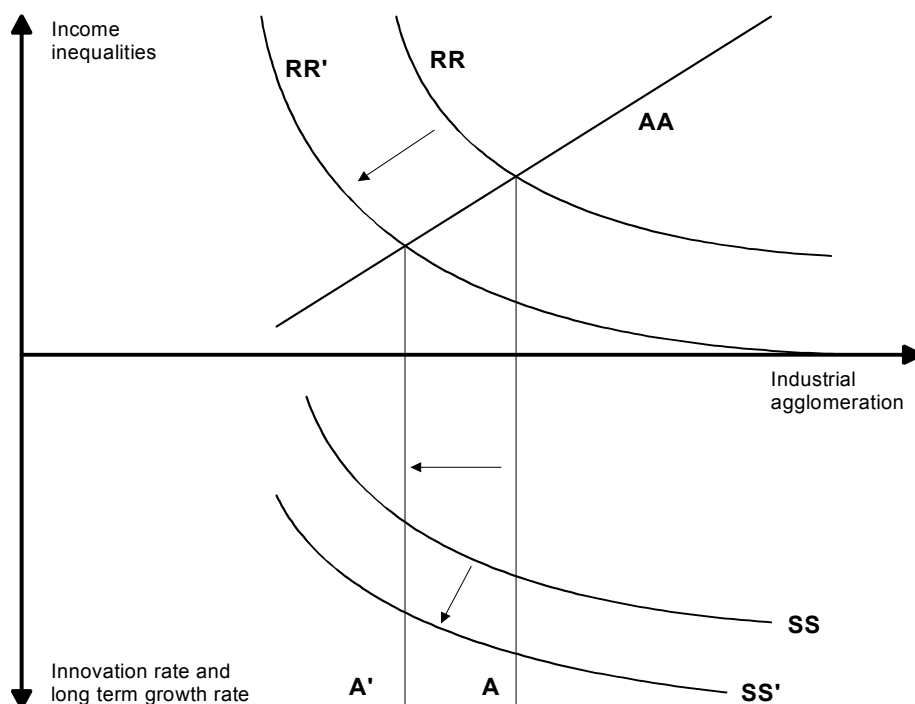
$A(R) \uparrow \rightarrow g(A) \uparrow \rightarrow R(g) \downarrow$.

This agglomeration-increasing outcome can be found in numerous authors' articles (the most prominent maybe being Krugman, 1991). The seemingly paradoxical result: improving access to the lagging region via transport infrastructure investment comes at the expense of the receiving region that is even more deprived of industrial activities. This theoretical result finds an empirical confirmation in the unsuccessful Italian efforts to foster economic growth in the Mezzogiorno (Martin, 1999, p. 18; Faini, 1983). Nearly half a century ago, Myrdal (1957) formulated the same result in his theory of “circular cumulative causation”.

In all the regional policy approaches looked at so far, there is an unfortunate consequence: a reduction in the rate of innovation and hence in the country's rate of growth (direct transfer/subsidy to the poorer region), or the same negative effect together with an increase of regional income disparities within the country (infrastructure projects within the poorer region), or the relocation of companies to the richer region and hence an increase in agglomeration (infrastructure projects connecting the capital city region and the periphery). Thus, as indicated above, regional policies evidently face a trade-off between equity and efficiency – none of the shortly described approaches to regional/cohesion policy is able to reconcile the abovementioned trade-off.

Now it can be shown that, in contrast to a general transfer policy or a diminution of transaction costs between the richer and the poorer area or within the poorer area, a policy aimed at reducing regulatory barriers to innovation or the costs of innovation makes it possible simultaneously to achieve objectives of reducing regional inequalities and increasing the rate of growth. The regional policies involved could be R&D subsidies, education infrastructure or making capital markets more conducive to new start-ups.

Figure 3: Effect of a reduction in the cost of innovation or of an increase in the diffusion of innovation



Source: Martin (1999, p. 19).

In this case (Figure 3), it is the dynamic equilibrium (lower part of the graph) that is first affected. A reduction in the cost of innovation tends to increase the rate of growth: The curve SS (which shows the positive relationship between innovation and agglomeration, due to the existence of localised spillovers) shifts downwards (the rate of growth increases for a given level of agglomeration). By boosting competition, this increases the rate of innovation, reduces business profits and hence income inequalities between the two regions (again, we can think of Budapest as the richer region and of Borsod-Abaúj-Zemplén as the poorer one). The induced effect means that spatial equilibrium is also affected: The curve RR (which shows that when industrial agglomeration increases competition intensifies, thereby tending to reduce the profits of monopolistic businesses and income inequality between the regions) shifts leftward and industrial agglomeration in Budapest diminishes. In the final equilibrium state, agglomeration and regional income disparities have diminished while the national growth rate has risen; the equity-efficiency trade-off problem has been solved – there is hence a case for a cohesion policy that reduces the cost of innovation or increases the diffusion of innovation (Martin, 1999, pp. 18-19):

$$g(A) \uparrow \rightarrow R(g) \downarrow \rightarrow A(R) \downarrow.$$

Another policy can have the same effects: An infrastructure-improvement policy focusing on lowering the cost of conveying information rather than the cost of transporting goods fosters the effect of interregional spillovers and hence enables the rate of innovation to be stepped up, since the innovation sector benefits more from spillovers generated by geographically remote firms. Such a policy would have the objective of increasing the capacity of lagging regions to absorb new technologies and to increase the spatial diffusion of innovation. This could be done by financing infrastructure in information and communication technology (ICT) and education. The impact is then similar to that illustrated in Figure 3.

6. REGIONAL POLICY PRESCRIPTIONS OF MARTIN (1999) IN LIGHT OF HUNGARY'S ECONOMIC REALITY

6.1 An agglomeration-driven growth pattern and national catching up as main goal

Suppose a regional policy is implemented in a certain country, following the “prescriptions” of the model of Martin (1999), i.e. a regional policy reducing the cost of innovation or increasing the diffusion of innovation. As one of the desired outcomes, this policy leads to reduced interregional disparities and a more balanced spatial pattern of economic activities, hence less agglomeration. Yet, if the respective economy's growth patterns are characterised by a very high agglomeration-elasticity of growth g (i.e. a growth function that is very responsive to changes in the patterns of industrial concentration), the growth rate might increase only insignificantly or not at all (even if it does not decrease).

In fact, during the whole transition process, Hungarian growth has been and still is agglomeration-driven. The country's very high agglomeration-elasticity of growth is embodied by the absolutely dominant core role of Budapest as its capital city region and, to a lesser extent, its Western regions bordering Austria (see Section 3). As in the Czech Republic or in Slovakia, there is no centre that could rival the capital city. In the mid-1990s already, Budapest had more joint ventures than the remainder of Hungary combined and nearly two-thirds of all FDI flowing into Hungary went to Budapest, whereas the country's peripheries are characterised by high unemployment rates. As GDP growth, productivity growth and employment are mainly created in the Budapest agglomeration, it might be harmful to reduce agglomeration or do anything which doesn't have the best possible effects on the country's main growth pole and its catching up process.

Carried to an extreme, a spatial equity-oriented regional innovation policy in Hungary might be tantamount to a renouncement of a higher overall growth rate, and hence an impediment to the catching up process. This evidently would be an arguable – if not undesirable – outcome. In this case, a regional policy that reduces the transaction costs between the richer region and the poorer one (e.g. by improving roads or railways) might be preferable, as it implies reduced regional disparities, a higher growth rate and increased agglomeration, which is ultimately pushing up the overall (agglomeration-sensitive) growth rate.

In addition to this, the national catching up process to EU-15 income levels seems to be the priority for Hungarian as well as EU policy makers, i.e. it seems to be more important than the immediate containment of regional disparities within the country. A higher overall per capita income level (even if very unevenly distributed across regions) might even be a *conditio sine qua non* to be able to fight regional disparities and possible over-agglomeration at later stages of the development process. In this case, any policy involving a renouncement of a higher overall growth rate might be undesirable.

6.2 The financial burden of the policy

It is clear that we may not ask a too costly regional policy from Hungary, i.e. one that would overcharge the country financially. As a transition and EU accession country, it has to set aside many Government funds for reforms, environmental investment etc. In 2002, the Hungarian Government reached a record budget deficit of 9.4 per cent of GDP (!), and for 2003 and 2004 forecasts predict deficits of around 5 per cent – all far beyond the Maastricht criterion of 3 per cent that the country will most likely have to stick to soon, if it wants to accede to Euroland. In this context, any financial burden is problematic. If however the financial burden of the policy were so high that – in the case of an innovation-supporting regional policy as described above – the endogenous effect on incomes and geography dominates the exogenous effect on the cost of innovation, the net effect on growth might be negative. Hence, the cost of such an innovation-oriented regional policy must not be too high (and yet it is relatively likely to be), if (apart from the reduction of agglomeration and regional inequalities) the desired impact on the national growth rate is to be positive. Thus, in the framework of its cohesion policy, the EU will have to continue to considerably co-finance its poorer countries' regional policy projects. Distinct calls for lower EU co-financing (in order to increase the receiving regions' "sense of ownership") run contrary to the financial feasibility of a true regional innovation and education policy in Hungary.

6.3 The situation of innovation, R&D and scientific education in Hungary

Hungary has – like the other CEECs – a developed educational system and a relatively solid base of science and technology (S&T). The education levels are comparatively high, especially concerning scientific and technical skills. The Hungarian skills and competence base offers good opportunities for competitive research, development and manufacturing clusters. In addition to this, it is higher education that facilitates technology transfer (e.g. Tondl and Vuksic, 2003). Contrary to other CEECs, agriculture is not more important than in the EU-15 countries, and Hungary has a higher share of sophisticated engineering industries and a lower share of labour-intensive industries than EU countries such as Portugal or Greece. Even if Hungary partly still lacks appropriate domestic strategies to continuously support technological change, innovation processes and related training measures, it has taken a more proactive approach to S&T policy and technology-related education in the second half of the 1990s and in recent years: the S&T Policy College of the Hungarian Government has presented a "Science and Technology Policy 2000" programme, and very recently, the governmental programme "A Chance for the Future" has put a focus on computer skills, teleworking and the development of small and medium-sized enterprises (SME) – just to mention two examples. And yet, the overall picture is not that bright... .

The programmes just mentioned seem to be more than justified, because in Hungary – as in other accession countries – the former centrally planned, simple "linear model" of innovation had been widely dissolved and made obsolete: the country's S&T system has suffered from both a decline in government support and industrial research – during the 1990s, the S&T system has lost more than half of its industrial researchers. In the first half of the 1990s, R&D expenditure per unit of GDP sharply decreased, and only slowly stabilised thereafter. Publicly funded scientific facilities and research institutes are still hardly integrated into private companies' innovation activities, which anyway are weak. High-tech production is still limited to very few specific regions and sectors, and hasn't spread to the country or industry

as a whole. Even if there are many skilled workers, engineers and highly educated scientists in Hungary, their competencies have been partially made obsolete by the systemic change and economic restructuring (Meske and Weber, 2001).

At the outset of the transition and accession process in Hungary, major hopes for knowledge spillovers, technology transfer and innovation were pinned on foreign direct investment (FDI). Multinational corporations were expected to be multipliers of modern production and management know-how in the country. These hopes cherished by many Hungarians have been broadly dashed: even if FDI might contribute to aggregate output growth (Tondl and Vuksic, 2003) and overall labour productivity, there is much evidence that foreign owned companies in Hungary – due to their strong technical superiority – operate in virtually isolated “cocoon”. There are hardly any technological spillovers, and FDI hasn’t played the role of an innovation-stipulating means for domestic firms (Günther, 2002). Foreign companies are hardly willing to “give access” to innovations. By buying up domestic companies, they rather absorb knowledge than distribute it. Typically, products and technologies are imported by the foreign companies, and so are their production inputs – there is hardly any room for Hungarian R&D. The technological disparities between the Western multinationals and the Hungarian economy haven’t decreased. On the contrary, they seem to deepen (Farkas, 2000). Hence, the situation of innovation, R&D and technological knowledge in Hungary has hardly been improved by the massive inflows of FDI so far.

From what has been said, it seems that the use of indigenous capacities in investments, skills and science has to be broadly strengthened. If FDI doesn’t play a multiplier role concerning technological innovation and knowledge spillovers, than those domestic capacities have to be enhanced involving academia, research institutions, enterprises and regional authorities, in order to develop the kinds of networks that have contributed to the competitiveness of many EU-15 regions (Meske and Weber, 2001). Hungary has to take an “endogenous” approach to regional policy (e.g. Cappellin, 2002), consisting of interregional innovation networking, intense co-operation between the different counties, the improvement of information and communication links for technology transfer, SME development, vocational training for the labour force etc. But still, the number of enterprises producing for local markets is low, and so is the co-operation between the producers and between the counties (Rechnitzer, 2000, p. 52).

Summing up, the approach advocated by Martin (1999), i.e. policies supporting e.g. innovation diffusion, R&D subsidies, the creation of small high-tech sectors and human capital only partially fall on fertile soil in Hungary, as the country’s innovation, R&D and scientific education system is still in a problematic situation – the environment for high-tech production and technological innovation has to be improved, before such a regional policy approach really can bear fruit.

6.4 A regional innovation policy in Hungary’s peripheries?

What has just been said is even more true for Hungary’s peripheries, i.e. the North-Eastern, Eastern and most Southern regions of the country. In those regions, that had strongly depended on heavy industries in the socialist period, the decline and disappearance of outdated enterprises has made the workforce’s skills mismatch even worse. Three Eastern Hungarian industrial counties account for around 35 percent of the country's total unqualified (and unemployed) workers. Even if there were FDI in those regions, and even if the foreign companies were “willing” to give access to innovations, the lack of higher education would

make technology transfer highly difficult. In the counties of Pest, Nógrád and Szabolcs-Szatmár-Bereg there are significantly less education places than on average in Hungary (Rechnitzer, 2000, p. 48). Hence, in these areas, extended funding for training measures and technology- as well as computer-related education is strongly needed, and so are qualified teachers and a better equipment of schools with modern computers, of companies with modern machinery etc. Any form of technological development can only be adopted if those who are supposed to adopt it can be directly familiarised with it. However, in Hungary's peripheries, there is a lack of even the most elementary information and communication infrastructure (and transport infrastructure, too).

Yet, the Government has begun to deal with the problems of the most lagging regions, also with respect to their technological backwardness. The aforementioned Government programme "A Chance for the Future" aims at improving the most disadvantaged regions' development, employment and innovation potential. In this context, especially support to the education infrastructure would be an important regional policy approach, as information and communication infrastructures or R&D subsidies could only be utilised if workers, engineers, scientists etc. were adequately qualified.

The nearly complete lack of FDI inevitably requires Hungary's lagging regions to take on an "endogenous" approach to regional policy. Even if, as described above, the conditions for that have to be clearly improved, a regional innovation policy even in the country's periphery is not a hopeless venture. The Government has made some important steps, e.g. also by supporting many business incubators and innovation centres in backward regions with high unemployment (Gulácsi, 1997). More regions (and nearly all the lagging ones) than in any other accession country have become active members of the "Innovating Regions in Europe (IRE)" Network, which aims at interregional networking on regional innovation policies, best-practice exchange etc. And yet, a true regional innovation policy and the creation of small high-tech sectors will only be successful unless the transport infrastructure as well as the business opportunities are improved and the education and training systems renewed.

6.5 The political economy of shifting priorities: the law of inertia applies

The huge sums spent in the framework of the EU's Structural and Cohesion Funds (roughly 215 billion EUR in the financial framework 2000-2006, which is a third of total EU spending) have traditionally aimed at financing public infrastructures, mainly transportation infrastructures. This approach has been partly justified by the considerable disparities in infrastructure in the EU and the objective to bring remote regions closer to the Single Market. In addition to this, there is a deeply entrenched belief in Brussels that the so-called Trans-European Networks (TENs), i.e. mainly roads and railways connecting different EU Member States, are one of the most important engines for growth. They are prioritised, as they're seen to create a "pan-European value-added". The most recent "growth initiative" of the Italian EU Presidency, which put emphasise on investment in transport infrastructure, produces testimony of this belief.¹⁰ Pinzler (2003) questions why these measures of all possible measures should foster growth – in fact, the EU doesn't provide any reasonable explanation.

¹⁰ More generally, the 18 priority transport infrastructure projects that have been suggested by the "High Level Group on the Trans-European Network" chaired by former EU Commissioner Karel van Miert amount to an investment volume of 235 billion EUR (!). And yet, they're a done deal: the European Transport Ministers have voted positively on the list.

This conviction is being exported to the accession countries: the so-called TINA¹¹ list is seen as the most important economic and regional policy priority in Central and Eastern Europe (e.g. Tartler, 2003). In their National Development Plans for the first three years of EU membership (2004-2006), the accession countries hardly prioritise R&D, innovation policy and human resources development, but infrastructure projects. Poland e.g. only foresees 17 percent of EU support for education and human capital, whereas 55 percent (!) of the Funds are supposed to be set aside for (partially prestigious) infrastructure projects (Samecki, 2003). The figures for Hungary are not very different – in its famous “Széchenyi Plan”, a National Development Plan presented in 2000, the Hungarian Government dedicated 120 billion HUF to motorway construction, more than for innovation policy, SME development and regional development policy together. So, after all, it doesn’t look as if the prescriptions of the model of Martin (1999) and other theorists and empiricists really have a fair chance of being considered as viable alternative approaches for long-term growth, competitiveness and spatial equity. In the political economy of shifting priorities, the law of inertia undoubtedly applies – and to hope that this changes soon would be a rather illusory claim.

7. WHAT CAN EU POLICIES DO? AND WHAT ARE THEY ALREADY DOING?

What are the lessons of the model discussed? What could be promising starting points to incorporate these new priorities into already existing EU cohesion policy schemes? For the accession countries and their regions, two sources of EU regional funding are particularly relevant: the Structural Funds’ Objective 1 funding and the Cohesion Fund. All the regions that have a GDP per capita below 75 per cent of the EU average GDP per capita are eligible for Objective 1 funding, and all the countries whose GDP per capita is below 90 per cent of the EU average are eligible for support from the Cohesion Fund. As we have shown in Section 2, all the accession countries currently meet the conditions for support from the Cohesion Fund. Moreover, nearly all their regions (with very few exceptions) are eligible for Objective 1 support.

In 2000-2006 – as in previous periods – both the Structural Funds’ Objective 1 and the Cohesion Fund are putting a major focus on infrastructure measures, namely transport infrastructure. Between 2000 and 2006, 137.8 billion Euros are spent under the heading of Objective 1 – clearly more than half of the overall EU cohesion policy budget, which amounts to roughly 240 billion Euros in the same period. 24.4 per cent of these 137.8 billion Euros of Objective 1 funding are spent on infrastructure (especially transport infrastructure), whereas only 5.9 per cent are spent on research, technological development and innovation. The Cohesion Fund doesn’t dedicate any money at all to research and innovation: it is equally split between infrastructure and environmental investments (European Commission, 2003c, p. 21). This clearly violates the regional policy prescriptions which we derived in Section 5, and which would be able to overcome the equity-efficiency trade-off regional policies often seem to face.

Yet, the projects supporting research, technological development and innovation in the framework of Objective 1 funding could be promising starting points to incorporate the new priorities derived in Section 5 into already existing EU cohesion policy schemes. The European Regional Development Fund (ERDF) innovative actions contribute to the

¹¹ TINA stands for “Transport Infrastructure Needs Assessment” (papers initiated by the European institutions).

implementation of regional innovation strategies (RIS/RIS+) throughout the EU. The three strategic themes of the innovative actions co-funded by the ERDF are:

- regional economies based on knowledge and technological innovation;
- e-EuropeRegio: the information society at the service of regional development;
- regional identity and sustainable development (European Commission, 2002).

Moreover, the European Social Fund is an important pillar of EU cohesion policy: it contributes to human resource development, modernises the education systems and provides funding for vocational schooling, taking account of the emergence of the knowledge-based economy.

Yet, these important and promising programmes are not sufficiently emphasized and funded. The budget of the ERDF innovative actions e.g. amounts to only 0.4 per cent of the ERDF budget, which corresponds to approximately 400 million Euros over the entire period 2000-2006 – compared to 34 billion Euros spent on infrastructure projects under Objective 1 funding alone (European Commission, 2002; European Commission, 2003c, p. 21). Too much money is still invested in financing highways and prestigious infrastructure projects (with temporarily positive Keynesian effects). It is clear that investment in physical infrastructure will remain of utmost importance in the CEECs for years to come – yet, on its own it can not enable lagging regions or countries to catch up, and, as the model above has shown, it might have very unfortunate consequences. Cohesion policy in the accession countries will have to take a more complex approach: human skills have to be adapted, R&D and innovation as well as the knowledge-based economy have to receive more attention and employment opportunities in the services sector must be created.

The Irish growth miracle's determinants confirm the essential contributions that FDI, “knowledge/technology sourcing”, investment in human capital and ICT can make to foster productivity growth (maybe the most essential and prevalent objective for the CEECs), catching-up as well as regional and social cohesion. Not by chance, Ireland was among the countries that allocated the biggest proportion of Structural Funds to human resources development, high-tech oriented education and vocational schooling – 36 percent.

Unfortunately for the first three years of EU membership (2004-2006), in many accession countries' National Development Plans it doesn't seem that the priorities of R&D, innovation policy and human resources development are properly addressed. As shown above, Poland e.g. only foresees 17 percent of EU support for education and human capital, whereas 55 percent (!) of the Funds are supposed to be set aside for infrastructure projects. Expenditure on education as a share of GDP is more than 30 percent lower in the CEECs than in the EU-15. Expenditure on R&D as a share of GDP is 5 to 6 times higher in the EU than in the Visegrad group (Samecki, 2003, pp. 4-6). If the EU-25 is to take the Lisbon agenda of economic modernisation and competitiveness (e.g. European Commission, 2003b) seriously, these data could soon become a big problem. Hence, there is big room for reflection and improvement in the run-up to the next generation of EU cohesion policy and national regional policies as well as the next EU budgetary framework (2007-2013).

Finally, we should briefly ask the question why, after all, the location of economic activities has become such an important policy issue in the EU, but not in the United States. Or, in other words, why is it that regional income disparities are much more important in the EU than in the US? The most important reason for this is the marked mobility of economic agents in the US, whereas in Europe workers are hardly mobile, not only among countries, but also among

the regions within a country. Whereas the workers in the United States follow the companies (and thus contribute to the adjustment of regional inequalities), the “European model” is to move activities to where the people are rather than to move people to where the companies (and hence the jobs) are located.

As European economic agents do not follow mobile capital from regions in decline to regions experiencing growth, the problem of regional disparities is so acute. Hence, housing and tax policies that facilitate the mobility of workers should be strengthened and fully regarded as regional policies. In transition countries such as Hungary, the State has completely withdrawn from the construction of state rentals and condominiums, and the end of the rent controls has made rented flats too expensive. New housing construction dramatically declined and the housing shortage inherited from the old regime has become pervasive. The privatisation of State rentals and gradually increasing rents aggravated this general housing shortage. Problems of over-occupancy, rent arrears, evictions and homelessness have multiplied during the transition process (Sailer, 2001, pp. 329-330). As a result, workers' mobility has nearly come to a standstill, which is one of the most important reasons for growing regional unemployment and income disparities. Whereas e.g. in Hungary's Western counties employers already lament a lack of workers, in the Eastern parts of the country unemployment reaches more than 20 percent (Rosenkranz, 2002) – and yet the workers don't move.

Given the inertia of what has been called the “European model” above, it seems to be an illusory claim to voice our support for a mobility and housing policy on equal footing. It has to be clear however that the specialisation of regions in certain industries suggests that low-intersectoral mobility of workers increases the welfare cost of spatial concentration. Policies involved to increase intersectoral mobility could be adequate housing schemes and policies as well as education and training policies, i.e. policies that have been recommended above, too (Martin, 1999, p. 20; 2002).

8. CONCLUSIONS

This paper has highlighted the two big challenges EU cohesion policy will have to face in an enlarged Europe. On the one hand, due to the legacy of the socialist era, there is a general economic and social backwardness in Central and Eastern Europe with respect to the current EU Member States (with very few exceptions). Hence, EU cohesion policy will have to contribute to the catching-up of accession countries' economies if the Treaty objectives of economic and social cohesion are to be respected. On the other hand, the transition from centrally planned economies to market economies and the ongoing integration with the EU have led to a preoccupying rise of regional inequalities within the CEECs. In this respect, Hungary is a “typical” example. By its very definition, EU cohesion policy will have to address this problem very attentively, too.

Yet, in many ways, regional policies seem to face a trade-off between equity and efficiency. In the case of the acceding CEECs, this suggests that it will be difficult to attain through these policies the objective of higher national growth (and therefore convergence towards the EU-15) and at the same time the objective of a decrease in regional inequalities. The theoretical approach discussed in this paper shows that some regional policies can have unfortunate consequences, including a reduction in the rate of growth, or the same effect coupled with an increase in income inequalities, or the relocation of firms to the richer regions. However, a policy that reduces the cost of innovation or increases the diffusion of innovation reduces

regional income inequality, agglomeration **and** increases the national growth rate. The regional policies involved could be R&D subsidies, investment in education and ICT infrastructure or making capital markets more conducive to new start-ups.

Some promising EU programmes already exist in this direction. However, they're clearly neither sufficiently funded nor recognized by the CEECs as a key priority for productivity growth and competitiveness. In order to take adequate account of what can be most generally called "globalisation", EU cohesion policy's focus on large-scale, direct business support and infrastructure projects ought to give way to "softer" policy approaches, i.e. SME development, the creation of employment opportunities or the fostering of innovation. Adequate housing policies and approaches increasing workers' mobility would be very appropriate, too.

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