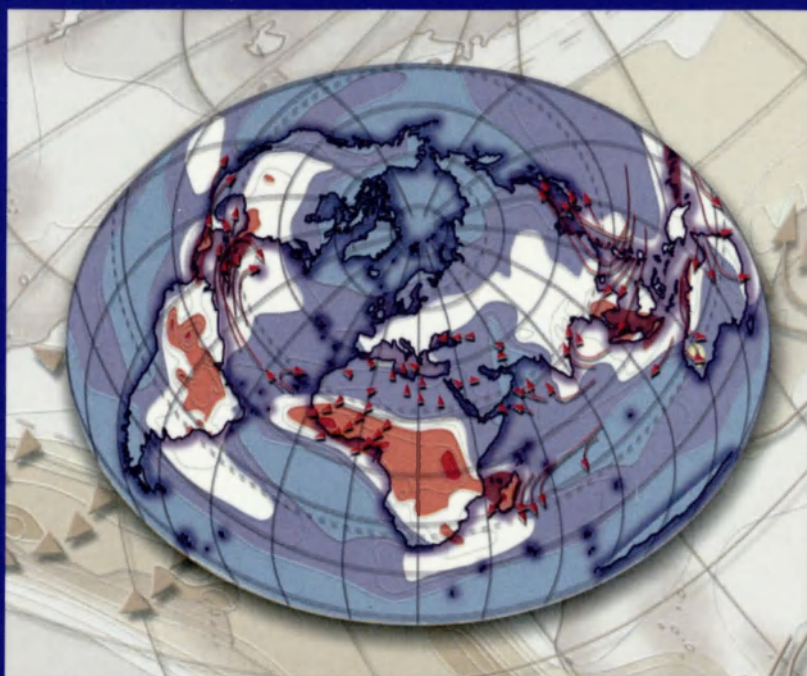


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GEOGRAPHIA POLONICA



**REGIONAL DEVELOPMENT AND TRANSFORMATION
OF CENTRAL AND EASTERN EUROPEAN COUNTRIES**

**GUEST EDITOR:
BOLESŁAW DOMAŃSKI**

**POLISH ACADEMY OF SCIENCES
INSTITUTE OF GEOGRAPHY AND SPATIAL ORGANIZATION**

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CHAPTER 12: THE POLISH ECONOMY IN THE 2100s

Department of Economics, University of Wrocław

Wrocław, Poland

EDITORIAL

The political and economic transformation of the formerly communist societies of Central and Eastern Europe have implied substantial changes at all geographical scales from the national to the local. However, the collection of papers in this volume is primarily focused on problems these countries are currently facing at the regional level. To this end, three papers deal directly with the issues of regional development, albeit from the different perspectives of foreign economic relations (Michael Bradshaw), innovation (Zoltán Gál) and regional disparities (Jiri Blažek). Further articles are concerned with rural regions of Romania (David Turnock) and the model of the regional economy of Donetsk in Ukraine (Hans Van Zon). Finally, Bolesław Domański carries out analyses of the varying performance of national economies in Central and Eastern European countries (CEEs).

The six different countries whose problems are discussed in this volume represent various forms and stages of the 'transition' to democracy and a market economy. The regional questions in Russia are hardly comparable to those of the other countries due to the sheer size of the country, its specific history and the path of development it has been taking since the early 1990s. Ukraine may show some similarities to Russia, though its cultural and political character is distinct. Romania followed a road of its own under communism, but is now on the verge of joining the European Union. Hungary, Poland and the Czech Republic are already members of the EU; the last of the three boasting one of the two most advanced post-communist economies.

The authors writing here are acknowledged specialists on Central and Eastern

Europe from the British universities as well as academics from the studied region. Despite the fact that the particular problems addressed by the authors of the individual papers are different, all the texts contribute to a broader debate on the current changes in Central and East European societies and economies.

There is a fundamental issue of continuity and change in relation to the communist and pre-communist pasts of the countries in this part of Europe. Bradshaw raises this in the context of the relationships between foreign economic activity and regional development in the Russian Federation. He poses a question as to whether a shift in the locus of economic decisions towards the regions and private companies in the wake of the collapse of the Soviet system, has resulted in changes in core—periphery relationships between regions of the country. The reliance on exports of Siberian and Far Eastern natural resources marks a continuity with the Soviet era, while FDI influenced by the consumer market in the European regions is identified as a new phenomenon.

Other papers also explore the way in which the past affects contemporary processes and the future. Turnock begins his study of poverty in rural Romania by defining the problem as 'a historic one' arising from the fact that the country has never been able to convert its large peasant population engaged in subsistence farming into diverse rural communities. The goal was left even further distant by the post-1990 land restitution reforms and drastically reduced employment opportunities for rural dwellers. The Donetsk model of the economy examined by Van Zon is in turn deeply rooted in the former Tsarist and Soviet monopolization of power,

patron—client relations and an aversion to transparency. Blažek shows that diversified metropolitan regions have generally performed better than non-metropolitan, old industrial and rural regions; thereby reproducing some earlier spatial structures, but at the same time indicating some clearly-new ones. Gal finds significant continuity in the spatial patterns for innovation in Hungary. Initial social and cultural attributes of CEE societies are also argued to affect the economic performance of the entire countries (Domański). All things considered, both elements of continuity and change are evident, though it seems that some sort of continuity often prevails. This may lead to the question of path dependence, as is explicitly raised by Van Zon, who questions the explanatory power of the 'virtual economy' and partial reform equilibrium approaches to blocked reforms in Ukraine and Russia in general.

If local history matters, it inevitably means that geography matters too. There is obviously no universal transition on the national or regional levels. A more general problem is how much this could entail deterministic interpretation of the future based on history and geography. None of the authors contributing to this volume tends to favour such an interpretation.

There is a related issue of understanding the post-communist transformation as a 'transition'. The latter concept suggests a relatively short period of time, which ends with the achievement of a certain pre-defined state. It is a much narrower concept than 'transformation' or 'development'. One may ask in this context whether an end to transition is reached at a certain point. If a transition is understood in terms of the installing of basic political and economic institutions and mechanisms, then the answer has to be positive. From this point of view, the Czech Republic, Hungary and Poland have already become 'post-transition countries'. This by no means suggests that the transformation processes of these societies and economies have ended and/or reached some final stage. What it rather means is that the 'post-transition countries' face new chal-

lenges, different from those of, say, Ukraine or Russia, and may need different policies.

Another problem is the importance of actors and public intervention on various geographical scales from the supra-national (including the European Union), via the national to the regional and local. It is very interesting that the role of regional and local activities and actors, denied under state socialism, is explicitly underscored in each paper of this volume. Moreover, the authors lay stress on the significance of social conditions as a prerequisite for sustainable economic development and strengthening of weak regions after perhaps inevitable preoccupation with economic structures and technical infrastructure in the 1990s. Turnock expresses this explicitly: 'at the end of the day the future lies with communities and the way they manage their affairs'. Local capacity, especially of local governments and NGOs, has to be enhanced if the poverty in rural regions in Romania is to be overcome. For Gál, the vital element of Hungarian policy should be augmented endogenous capacities for regional innovation. Blažek argues that local initiatives and the quality of human resources, including abilities to cooperate and generate an atmosphere of commitment and optimism, are crucial assets in local and regional development in the Czech Republic. These assets are immobile and dependent on bottom-up approaches. Discussing prospects for a breaking-up of the monopolistic economic and political power of financial-industrial groupings in the Donetsk region, Van Zon points to networks of citizens and institutions pressing for change. 'The embryonic civil society' might provide the impetus for the abolishing of neo-patrimonial social practices and institutional structures, that stand in the way of a move towards a more open society and polity.

At the same time, there is no doubt about a need for strengthening state institutions and for a proper state intervention policy. This includes democratic and transparent public institutions, which are particularly emphasized in the case of Ukraine and Romania.

One may find a discussion of some perennial geographical dilemmas in the historical and spatial context of post-communist Central and East European countries. The problem of dealing with regional disparities comes to the fore here. It does not appear as a major concern in Russia. In the Czech context, Blázek regards them as a quite natural phenomenon related to specialization and efficiency, and an incentive stimulating growth and changes. Gal finds regional inequalities in the sphere of innovation a more troubling issue, which has to be handled by national and regional policy. Turnock is less concerned with regional inequalities in general, focusing on internal rural peripheries as deprivation areas, in which poverty is hidden. He points to the dilemma of 'finding resources to relieve poverty while at the same time investing in restructuring and modernization without which jobs cannot be created'. On the whole, it seems that the 'winners' (both the regions and entire countries), have now to pass the tests of viability in the 'post-transition' decade, whereas the 'losers' need to find ways of 'catching-up', something which does not necessarily mean imitating the paths of the former.

There are also methodological lessons to be learnt here. It is evident that a long-term perspective is needed if complex and sometimes contradictory processes are to be disentangled. The discussed regional problems did not begin with the collapse of communism, something which is especially strongly stressed by Bradshaw and Turnock. It is also important to avoid the trap of evaluating the economic performance of regions (e.g. Dontesk in Van Zon's paper) and countries (Domański's article) simply on the basis of current political stability and economic growth. They may prove to be a relatively short-term, non-sustainable phenomenon, counterproductive to social and economic development in the long run. An insight into structural characteristics of the regional economy, society and politics is certainly necessary. Last but not least, important measurement problems are discussed by several of the authors.

I believe that the papers in this volume constitute a valuable contribution, that betters our understanding of some of the contemporary economic, social and political processes ongoing in the countries of Central and Eastern Europe, if mostly in terms of their regional dimensions.

Bolesław Domański

FOREIGN ECONOMIC RELATIONS AND REGIONAL DEVELOPMENT IN RUSSIA: CONTINUITY AND CHANGE

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Abstract: During the Soviet period, central control over foreign economic relations enabled foreign trade to address national economic problems. In geographical terms, funds generated by Siberia's resource exports were used to finance imports of western technology and agricultural products that were largely consumed in the European regions. In the post-Soviet period the level of central control is much reduced, but there is continuity in terms of the commodity structure of Russia's exports and the geographical consequences of foreign trade and investment activity. Now, as in the Soviet period, Russia's foreign economic relations serve to reinforce domestic patterns of regional development, in particular the core-periphery relationship between the European and Siberian regions of the country.

Key words: Russia, foreign economic relations, regional development.

INTRODUCTION

During the Soviet period analysis of patterns of regional development was hindered by the absence of data; now there is no shortage of information, but the discontinuity between the centrally planned economy and the contemporary market-type economy makes study of continuity problematic. As a result, there is a tendency to treat 1989 and/or 1991 as year zero and to consider the economic map of the post-communist states as a *tabula rasa*, a blank sheet on which the spatial imprint of the Soviet system has been erased from the landscape. Clearly this is not the case and the geographical legacies of the Soviet system, particularly in the states of the former Soviet Union, continue to impact up contemporary

processes of regional development. This paper reports on over 20 years of research into the relationship between foreign economic activity and regional development in the Russian Federation. The collapse of the Soviet Union and the subsequent liberalization and privatization of the national economy, coupled with a re-working of the federal system has resulted in a change in the scale of decision-making. No longer are all the key decisions made in Moscow, though under President Putin there has been a degree of re-centralization, regional governments and private companies are now import actors in the foreign trade of Russia and foreign companies are actively involved in inward investment. Decisions are now made at the scale of the region and the company and corporation.

This paper examines if this change in the locus of decision-making has changed the relationship between foreign economic activity and regional development in Russia. The paper is divided into two major sections. The first section considers the situation in the late Soviet period, focusing on the geography of exports to the West and the geographical dimensions of East-West technology transfer. The second section focuses on the current situation and examines the geography of foreign trade and the regional distribution of foreign direct investment (FDI). The final section compares the relationship between foreign economic activity and regional development in the late Soviet period and now and identifies aspects of continuity and change.

FOREIGN ECONOMIC ACTIVITY AND REGIONAL DEVELOPMENT IN THE LATE SOVIET PERIOD

From the early 1970s onwards foreign economic activity came to play an increasingly important role in Soviet economic performance. Shemelev and Popov (1990: 22–23) have suggested that in 1970 foreign trade activity accounted for about 8% of Soviet national income (about 4% of GNP using Western methods), by the mid-1980s that share had increased to 25% of national income (12–15% of GNP). In fact, had it not been for this increase in economic activity associated with the expansion of foreign trade then Soviet economic growth would have ground to a halt well before the 1980s. Two processes were behind this expansion of foreign economic activity: increased economic integration within the framework of the Council for Mutual Economic Assistance (CMEA) and the expansion of East-West trade made possible by improving political relations during the period of detente and financed by windfall profits accrued from raw material exports in the late 1970s and early 1980s. During the 1970s Soviet economic policy sought to use imports of Western technology and foodstuffs to compensate for

the failings of the domestic innovation process and the inefficiencies of the agricultural sector (Hanson 1981). It has been suggested that the Soviet leadership recognized that it was much easier to produce more crude oil to pay for grain imports than it was to try and solve the problems facing Soviet agriculture (Vanous 1982). Increased economic integration within the CMEA was not as profitable for the Soviet Union, but it served critical ideological and strategic ends. The fact that the Soviet Union was able to use its foreign economic relations to further its foreign policy goals and address domestic economic shortcomings was entirely due to the fact that the central planning system had a monopoly over foreign economic activity.

In a centrally-planned economy it was necessary to control foreign economic activity, export production and import utilization needed to be integrated into domestic economic planning and should serve the needs of national economic policy. In the Soviet Union this foreign trade monopoly was exercised by a complex administrative structure with the Ministry of Foreign Trade at its heart (Gardner 1982). This system was introduced in 1922 and remained virtually unchanged until 1987 when Mikhail Gorbachev introduced reforms in a last ditch attempt to modernize the Soviet economy. Before that the Ministry of Foreign Trade served to integrate the foreign economic policy dictated by the Politburo and orchestrated by Gosplan (the State Planning Committee) with the operations of the industrial ministries and their associated enterprises. The priorities set by the central planners shaped the Soviet Union's involvement in the global economy; hence the tendency to see the Soviet Union as the 'USSR Inc.' a huge economic entity that operated somewhat like a multinational corporation. The Ministry of Foreign Trade carried out its operations through a system of Foreign Trade Organizations (FTOs), which, for the most part were organized by industrial sector so as to dovetail with the system of sectoral ministries. Thus, for example, *Avtoexport*, dealt with the export of cars. There were two

FTOs that had a regional role, *Lenintorg* in the NorthWest and *Dalintorg* in the Far East, but their activities were restricted to a modest amount of local coastal trade. All the important decisions concerning export and import activities were taken in Moscow.

It was not only plan coordination that required this degree of centralization, the Soviet domestic currency, the Rouble, was not convertible and domestic pricing was not attuned to the world price of commodities and goods. As a consequence an elaborate pricing system was devised to enable foreign economic activity. In the traditional Soviet system any good traded on a foreign market had at least three prices: first, the price paid or received for that good on the world market in the relevant foreign currency (usually \$ US); second, the same price converted into foreign-trade roubles at an official exchange rate (that always over-valued the rouble); and third, the domestic price paid to the producer of an export item or paid by the recipient of an imported good (Bradshaw 1991, 168). To make a complicated situation even more complex, there were about 10,000 'differentiated foreign exchange coefficients' used to calculate the domestic value of imports and exports (Shemelev and Popov 1990: 229). A separate system based on the so-called 'transferable rouble' was used to manage inter-CMEA trade. This elaborate system allowed the central government to collect the hard currency revenues generated by export activity and then to use them to finance imports that furthered their economic and strategic goals. It also served to isolate domestic enterprises from the global economy and meant that any foreign business seeking to do business with USSR Inc. need only visit the appropriate FTO in Moscow. Thus, the internationalization of the Soviet economy indicated by the rising share of foreign trade in Soviet economy policy did not translate into increased economic interaction between foreign companies and Soviet enterprises. A factor that denied the domestic economy of the intangible benefits often associated with internationalization, such as transfer of management know how

and an appreciation of global competitive standards.

The analysis that follows is concerned with the direct impact that the increase in foreign economic activity from the mid-1970s onwards had on the regional development of the Soviet Union. It focuses on the impact of what was then known as East-West trade and technology transfer that is trade with the industrialized West. A consideration of the spatial impact of increased CMEA integration is beyond the scope of the paper and an analysis can be found in Shabad (1979). In simple terms, we can conclude that trade with the CMEA favoured the development of the more European regions of the Soviet Union and promoted the expansion of transport infrastructure links from those regions to Eastern Europe. For the rest of this section our concern is with the Soviet Union's 'hard currency' trading partners, principally Western Europe, North America and Japan. The research reported on this section is the result of two projects; first my PhD entitled 'East-West Trade and the Regional Development of Siberia and the Soviet Far East', completed in 1987 at the University of British Columbia (Bradshaw 1987); and second, a subsequent project funded by the UK's Economic and Social Research Council that was entitled 'West-East Technology Transfer and Soviet Regional Development', conducted at the University of Birmingham between 1988 and 1990 (Bradshaw and Shaw 1991, 1992). In a pioneering study on the subject, North (1983) defined the direct impact of Soviet foreign trade activity as: '... investment in mines and factories, and in the transport infrastructure serving them, in order to enable them to export. The allocation of imported factory equipment also contributes a direct regional impact'.¹ As North (1983: 95) also pointed out: '... the relationship between regional development and exports is circular. The regional policies and practices that affect export potential are themselves changing under the influence

¹ North also identified a series of indirect impacts, but they are beyond the scope of the present analysis.

of new foreign economic policies, including policies designed to expand and restructure exports.' In essence, our research in the 1980s sought to address two specific questions: first, what impact did the expansion of hard currency exports to the West have upon the development of Siberia and the Soviet Far East; and second, what was the regional impact of East-West technology transfer? The following section addresses each question in turn and then presents a simple model that relates the two questions to the process of regional development; however, before presenting the findings of this research it is necessary address matters of data availability and methodology.

When discussing data issues in relation to the Soviet economy it was customary to talk about availability and accuracy, to which I want to add the issue of comparability. The standard line seems to have been that there was never sufficient data available and the data that were published were not reliable. It is certainly the case that detailed information on regional economic activity in the Soviet Union were very hard to obtain and much that was published was of limited use. Similarly data were published on foreign trade at a national scale, but there were no data on regional participation in foreign trade and

detailed information on key aspects such as gold and diamond sales were considered a state secret. Thus, the data needed to answer the two questions presented above were not available. The issue of comparability was important because Western countries and international organizations, such as the IMF and OECD, did publish data on their economic relations with the Soviet Union. However, these data were not comparable with the data in the Soviet Foreign Trade Handbook, which recorded values in Roubles using 'official' exchange rates. No data were made available on the destination of imported machinery and equipment, but the Western business press did report major business deals. Consequently, to answer the questions posed above required a great deal of detective work.

In the case of assessing the role of the regions of Siberia and the Soviet Far East (hereafter SIBFE) in exports to the West, this required using OECD data to obtain the commodity structure of Soviet exports (Table 1). Once the key commodities had been identified it was then necessary to determine SIBFE's share of national production of those commodities. In the absence of information on regional foreign trade participation, it was then assumed that SIBFE's

Table 1. Key Soviet natural resource exports to the OECD, 1970-1987 (Million US\$)

Commodity	1970	1975	1980	1985	1987
Cork & Wood (SITC 24)	474	930	1653	873	1448
Coal (SITC 32)	177	535	555	427	593
Oil & Oil Products (SITC 33)	659	3782	13450	13368	10718
Natural Gas (SITC 34)	15	266	2778	2453	1835
Diamonds (SITC 66)	24	113	470	371	609
Non-ferrous metals (SITC 68)	292	465	813	561	1197
TOTAL	1,641	6091	19722	18053	16400
% of total exports to OECD	64.2	71.7	82.9	85.4	77.8
Gold Sales	n/a	725	1580	1800	3500

Sources: OECD (various years), and CIA (1990).

Table 2. Siberia and the Far East's estimated contribution to Soviet exports to the OECD, 1970-1987 (Million US\$)

Commodity	1970	1975	1980	1985	1987
Cork & Wood (SITC 24)	236	490	864	428	614
Coal (SITC 32)	43	161	119	198	298
Oil & Oil Products (SITC 33)	—	1153	7084	8288	7138
Natural Gas (SITC 34)	—	36	1028	1447	1158
Diamonds (SITC 66)	23	110	475	371	609
Non-ferrous metals (SITC 68)	115	232	527	348	732
Others*	56	93	166	171	342
TOTAL SIBFE EXPORTS	473	2275	10263	11251	10891
Total Exports to OECD	2555	8493	23789	21143	21081
SIBFE Exports to OECD as %	18.6	26.8	43.1	53.2	51.7
Fuel	1.7	15.9	34.6	47.0	40.8
Non-fuel	16.9	10.9	8.4	6.2	10.9

* Comprised of 40% of Soviet fish exports (SITC 03) and all of Soviet fur exports (SITC 21) to the OECD.
Sources: OECD (various years).

share of exports to the West of a particular commodity was equal to its share of national production of that same commodity. Not an unreasonable assumption given that the high level of self-sufficiency in these sectors meant that directly or indirectly there was a clear relationship between the share of domestic consumption and the generation of a 'surplus' for export. Thus, if SIBFE contributed 66% of Soviet oil production in 1987, its share of Soviet oil exports to the West was estimated at 66%. This exercise was repeated for all the major commodities to arrive at an estimate of SIBFE's contribution to exports to the West. This exercise was repeated over a number of years to get a sense of the dynamics at play (Table 2). The situation with imports of Western technology, embodied in imports of machinery and equipment (that varied in scale from individual machine tools to entire turnkey chemical plants), was even more problematic as there simply were no data. The solution was found via an exhaustive survey of the Western business press, particularly that which specialized

on East-West trade, such as the Economist Intelligence Unit's *Business Eastern Europe*. The net result was the construction of a computer database that contained information on over 2,500 contracts, with locational data for about 1,800 contracts or 70% of the data. The use of a computer database made it possible to generate both regional and sectoral summaries of the distribution of these contracts. However, because data on the value of each contract were not available the analysis was restricted to the number of contracts rather than their total value. The results are presented in Tables 3 and 4 and discussed below. The database carried detailed textual information on each contract that made it possible to determine what role technology transfer was playing in a particular region. The results of these analyses look rather modest when presented in tabular format, as one cannot appreciate the amount of effort required to piece together all this information, such as the nature of Soviet studies.

Table 3. Regional distribution of industrial employment and turnkey contracts

Economic region	Industrial employment (% of USSR)	Turnkey contracts (% of total)	Location Quotient
North	2.6	2.9	1.1
Northwest	3.6	5.4	1.5
Centre	13.6	10.6	0.8
Volga-Vyatka	4.2	3.0	0.7
Central Black Earth	2.9	2.7	0.9
Volga	7.1	15.9	2.2
North Caucasus	4.9	3.6	0.7
Urals	9.5	7.4	0.7
West Siberia	5.6	9.7	1.7
East Siberia	3.2	4.4	1.4
Far East	2.7	9.8	3.6
RSFSR Total	59.9	75.4	1.3
Rest of USSR	40.1	24.6	0.6

Source: Bradshaw and Shaw (1992: 114).

THE ROLE OF SIBERIA AND THE SOVIET FAR EAST IN EXPORTS TO THE WEST

Rather than try and assess the role of exports to the West across all the regions of the Soviet Union, it was decided to focus on SIBFE because the expansion of East-West trade coincided with the rapid development of the resource economies of SIBFE. The development of the West Siberian oil and gas fields was central to this process. Siberia's share of Soviet oil production rose from 9.6% in 1970 to 66.1% in 1990 and its share of gas production from 5.3% in 1970 to 66.1% in 1990 (Bradshaw 1992: 15). Siberia's dominance in the production of the key commodities that comprised exports to the OECD also explained why the Russian Federation, or the RSFSR as it was then, dominated Soviet exports. According to Goskomstat RSFSR, in 1988 the RSFSR accounted for 71% of Soviet foreign trade (to all destinations), including 89% of oil and gas exports, 77% of non-ferrous metals exports and 95% of forestry exports (Bradshaw 1992: 79). Furthermore, the commodities listed in Table 1 and 2 can be linked to particular regions in SIBFE. For

example, Tyumen Oblast dominated oil production, and still does today, non-ferrous metals included aluminium produced in the southern regions of East Siberia in places such as Krasnoyarsk, Sayan and Bratsk. In 1991 the southern regions of East Siberia produced 91% of Soviet aluminium ingot. It also included the nickel and platinum group metals produced in Norilsk and the gold produced throughout the Soviet Far East. The only source of diamonds was the mines at Mirnyy in Yakutia (now the Republic of Sakha). The southern regions of East Siberia and the Far East were major producers of forest products, much of which went to Japan. Thus, this anecdotal evidence based on a detailed knowledge of the economic geography of SIBFE served to reinforce the analysis presented in Table 2. The conclusion is clear, during the 1970s and 1980s the expansion of Soviet exports to the West was made possible by increased resource production in Siberia and the Soviet Far East. The analysis suggested that SIBFE's share of Soviet exports to the OECD rose from 18.6% in 1970 to 51.7% in 1987. First and foremost this served to place added

Table 4. Sectoral distribution of technology transfer by key region

Sector	USSR	Central Region	Volga Region	SIBFE
Oil and Gas	12.9	0.6	5.8	33.5
Other energy	2.5	1.0	0.0	8.2
Forestry	8.0	2.2	0.8	14.9
Chemical	20.6	13.1	26.7	12.0
Metals	5.5	1.3	1.6	6.1
Machinery	3.2	4.8	1.2	0.8
Automotive	14.4	14.6	57.2	0.3
Transport	4.7	1.0	0.0	14.6
Food	6.4	7.0	0.8	5.9
Textiles	7.3	9.2	2.5	1.1
Light Industry	7.0	15.9	2.1	1.3
Other	7.5	29.3	1.2	1.3
TOTAL	100	100	100	100

Source: Bradshaw and Shaw (1992: 115).

pressure on the oil and gas fields of Tyumen (fuel accounted for 78.9% of SIBFE's exports to the OECD), but it also promoted the development of key resource sectors in East Siberia and the Far East. Put differently, had Moscow not seen the opportunity to export resources to generate hard currency to finance technology transfer and the import of agricultural products from the West, there would have been far less pressure to develop the areas to the east of the Urals. In his analysis, North (1983, 101) concluded that increased foreign economic activity had provided a 'stimulus to primary extraction in the east—further east than home demand would require.'

EAST-WEST TECHNOLOGY TRANSFER AND SOVIET REGIONAL DEVELOPMENT

The consensus opinion reached during the 1980s seems to have been that while the overall share of imported Western equipment in total Soviet equipment investment was very modest, on average about 7.2% during the period 1980–84, the fact that it was concentrated in a small number of

key sectors amplified its significance (see Hanson 1981, and Holliday 1984). In some circumstances, such as in the automotive and chemical industries, the large-scale importation of Western equipment, often at the scale of entire plants, provided a rapid improvement in industrial performance. In other areas, such as the importation of large-diameter gas pipeline, imports compensated for specific weaknesses in Soviet industry. The literature distinguished between process technologies that conveyed the capacity to produce goods (such as a fertiliser plant or an automotive production line), and product technologies where a particular level of technological capacity was embodied in an imported product, but its importation did not convey the capacity to reproduce itself or another product. Large-diameter pipe is an example of such a product technology; the domestic steel industry lacked the technological capacity to produce the high-quality pipe needed to construct transcontinental gas pipelines. The import of pipe did not convey the capacity to produce more pipes. Given the strategic significance of

some of these technologies the West carefully monitored technology transfer to the Soviet Bloc through a rather secretive organization called CoCom (the Coordinating Committee) that maintained extensive lists of technologies and products that could not be sold to the Soviet Union. The case study literature on East-West technology transfer suggests that the sectors that benefited the most included the automotive, chemical, oil and gas and forest industries. In our research in the late 1980s we were interested to see, given the high level of industrial specialization at a regional scale, if technology transfer not only benefited certain sectors of the economy, but also certain regions. In other words, we sought to examine the relationship between technology transfer and regional development. The initial project focused on the role of technology transfer in Siberian development, but this was later broadened to include all regions of the Soviet Union.

The sectoral structure of our contract database, as described above, closely matched the results of previous research. Of our 2,500 contracts, the chemistry industry accounted for 20.6% of contracts, the automotive for 20.6%, the oil and gas industry 12.9% and the forestry industry 8.0%. This match gave us some confidence in the representativeness of our contract database. Our specific concern was with the regional distribution of technology transfer. Tables 3 and 4 present the results of our analysis, based on the 1,700 contracts that we had locational information for. The distribution of contracts is compared to the distribution of employment in 1985 using the location quotient. A measure of greater than one indicates a region whose share of technology transfer is greater than its share of industrial employment. The areas within the Russian Federation that have high Locational Quotients are the North and Northwest, the Volga and SIBFE. By comparing the regional distribution of technology transfer in specific industries with the overall pattern it was then possible to discern which industries were account-

ing for the overall pattern. For example, the regional distribution of technology transfer into the chemical industry favoured the Volga region, as did the automotive industry. The forestry industry favoured the Northwest in European Russia and East Siberia and the Far East. The oil and gas industry favoured West Siberia, though the import of equipment to built oil and gas pipelines actually benefited the European regions as it allowed valuable energy resources and feedstock to be moved to established centres in such regions as the Volga, rather than having to relocate chemical complexes and oil refineries to the harsher environment of Siberia. A closer examination of the exact nature of the contracts reveals that most of the process oriented imports were destined for the established industrial base in the European regions of the Soviet Union, while the bulk of the product imports were used to sustain resource production in SIBFE and enable there export to foreign markets, the most obvious case being the pipelines. There were some exceptions, such as equipment for the pulp and paper industry in East Siberia and a limited amount of chemical and petrochemical equipment. Surprisingly, very little equipment seems to have been imported to enhance the efficiency of oil production. In sum, in the European regions the resource-processing and manufacturing industries benefited the most from imports of Western technology while east of the Urals the emphasis was upon resource extraction and transportation with a limited emphasis on resource-processing. Thus, the pattern of technology transfer served to reinforce the core-periphery relationship between the European core regions and the Siberian resource periphery. Put another way, the expansion of East-West trade during the 1970s and 1980s served to amplify domestic regional development trends that favoured the modernization of the European regions (a factor reinforced by CMEA integration) and that aggravated the narrow pattern of resource-based development east of the Urals.

EAST-WEST TRADE, TECHNOLOGY TRANSFER AND SOVIET REGIONAL DEVELOPMENT

The first that should be made clear is that the spatial impact of East-West trade and technology transfer is best understood as the unplanned spatial consequences and macro-economic and sectoral decisions made in Moscow, rather than the outcome of a coherent regional development strategy. For the most part, the Soviet Union was not planned and developed on a regional basis. The process described in Figure 1 is the result of an opportunity realised in the 1970s and 1980s as a result of high global resource prices, particularly for oil and gas. This presented the Kremlin with an opportunity to use its resource wealth to compensate for the failings of the domestic economy through the expansion of trade with the industrialized West. The need to import technology and foodstuffs created a demand for hard currency, this demand

was met principally via the export of natural resources, the spatial impact of which was felt through an increased demand for resource production in SIBFE and through the need to develop a transportation infrastructure, particularly transcontinental pipelines, to get the resources to market. The income generated by these exports was then used to pay for imports from the West. The bulk of these imports were utilized in industries located in the European regions of the country. A small amount of technology transfer was also aimed at maintaining resource production and transportation, but the main spatial impact was to contribute to the renovation of the established industrial economy west of the Urals. Thus, Siberia's resource wealth was mortgaged to sustain the failing economy of the European USSR. This transfer of resource rent was only made possible by the central planning system and the state monopoly over foreign economic activity. That was then, what of

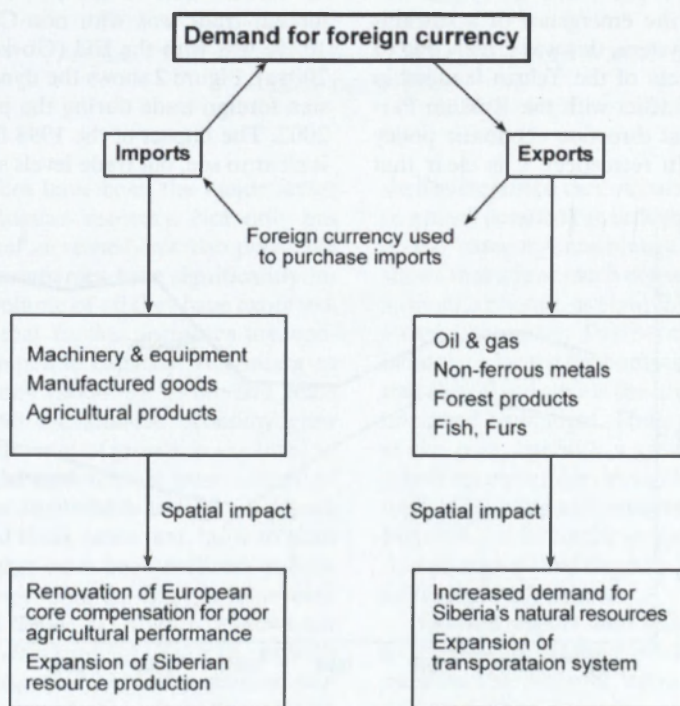


Figure 1. Regional Development in the late-Soviet Period.

the situation now? The central planning system is gone with it, but has the relationship between foreign trade and regional development changed?

FOREIGN TRADE, FOREIGN INVESTMENT AND REGIONAL DEVELOPMENT IN CONTEMPORARY RUSSIA

Considering the relationship between foreign economic activity and regional development in the Russia Federation we will focus on the situation after the financial crisis in 1998. The reasons for this are two-fold. First, economic crises from the early 1990s to 1998 are now seen a distinct period of transitional recession during which the vestiges of the centrally planned economy influenced the economic and political fortunes of Russia. During that period the bulk of the Russian economy was privatized and the state withdrew from the day-to-day running of economic affairs. However, the collapse of the old system was not wedded to the emergence of a sustainable economic system, this was largely due to the ineffectiveness of the Yeltsin leadership and constant conflict with the Russian Parliament over that direction economic policy should follow. In retrospect, it is clear that

the 1998 financial crisis dealt a deathblow to those practices and interests that had been hindered reform. By 2000, when President Putin came to power, a new, potentially more sustainable, economic model was developing in Russia; but as we shall see, a major source of that sustainability is derived from windfall gains from oil exports and the resource economy now plays an even greater role in Russia than it did in the late Soviet period.

THE GEOGRAPHY OF RUSSIAN FOREIGN TRADE

This analysis is confined to Russia's trade outside the members of the Commonwealth of Independent States (CIS), this is as close to the notion of trade with the 'West' as one can get in the post-Soviet world. In 2002, 85% of Russia's exports were to non-CIS states and 80% of imports came from non-CIS states, with the European Union being the most important trading partner (Goskomstat 2003a). In 2003, 35% of Russia's exports went to the EU and 38% of imports came from the EU. In the first half of 2004, 81.3% of Russia's foreign trade was with non-CIS states and 40.1% was with the EU (Goskomstat Rossii 2004a). Figure 2 shows the dynamics of Russian foreign trade during the period 1995 to 2002. The impact of the 1998 financial crisis is clear to see, but trade levels soon rebound-

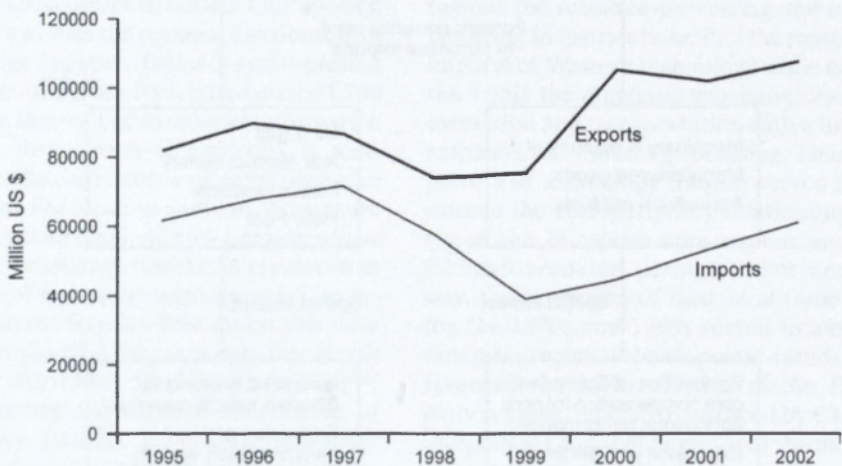


Figure 2. The Dynamics of Russian Foreign Trade 1995–2002.

Source: Goskomstat (2003a)

ed with exports growing faster than imports, which resulted in a growing trade surplus and improved balance of payments. Recent studies by the World Bank (2004) and the OECD (2004) have examined the components of Russia's post-1998 economic recovery and concur, as does the Russian government, that

2000 and 2003, the volume of oil exported increased by 30%. The dramatic growth has not been matched by increased imports. Two items dominate the commodity structure of Russian imports: consumer goods and foodstuffs (23.9% in 2003) and machinery and equipment (38.7%). The latter includes items

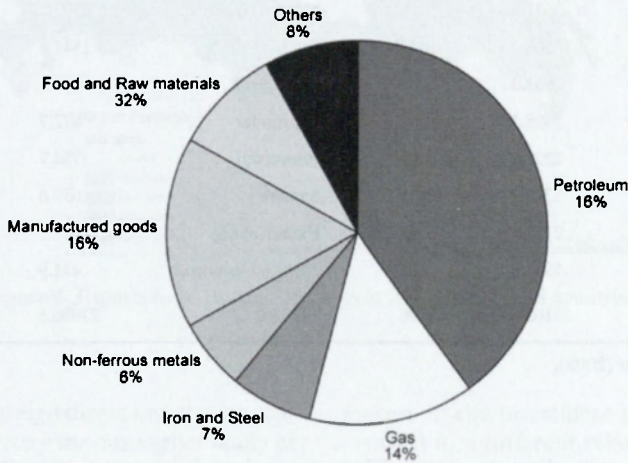


Figure 3. The commodity structure of Russian exports in 2003

Source: OECD (2004).

rising oil prices have been the major factor promoting Russia's recovery. Not only has the price of oil increased, but also post-1998 Russian oil companies have significantly increased the volume of oil they have exported, so much so that further increases are constrained by pipeline capacity. According to the World Bank (2004: 5), in the five years following 1998 the Russian economy grew by 38% and the rate of growth is expected to continue in the near term at least. Not all of this growth is attributable to high oil prices, but the World Bank notes that: 'growth rates of 5% or higher have been realized in Russia only at times when the oil price increased' (World Bank 2004: 11). Figure 3 shows the commodity structure of Russian exports in 2003, energy and natural resources predominate. As noted above, it is not just high oil prices, but increased volumes—between

such as imported cars. A cursory examination of a more detailed breakdown of the structure of the category 'machinery and equipment' shows that it is as much consumer goods, such as mobile phones, as equipment to modernize Russian industry. Furthermore, the investment data for the economy as a whole suggest that the oil industry is the major customer for imported equipment. Thus, there are echoes of the past, but with a greater emphasis on satisfying consumer demand. Table 5 lists the top 10 exporting and importing regions, while Figure 4 and 5 map the geographical distribution of exports and imports. These data must be treated with caution.

On the export side there are problems as a result of 'transfer pricing', the practice whereby the resource extraction companies do not record the value of the trading associated with their production, this is passed

Table 5. Exporting and importing regions in Russia, 2002

Exports			Imports		
Region	Value \$ Million	Percent of total	Region	Value \$ million	Percent of total
Moscow	22946.8	25.12	Moscow	14732.6	41.06
Khanty-Mansi	14528.3	15.61	St Petersburg	4731.7	13.19
Irkutsk	3631.9	3.98	Moscow Oblast	2803.5	7.81
Samara	3166.3	3.47	Kaliningrad	1544.2	4.30
Sverdlovsk	2763.0	3.02	Leningrad	967.7	2.70
Tatarstan	2595.6	2.84	Krasnodar	872.7	2.43
Yamal-Nenets	2227.0	2.49	Primorskii	754.7	2.10
Bashkortostan	2202.7	2.41	Samara	659.6	1.84
Leningrad	2111.8	2.31	Ekaterinburg	487.9	1.36
Perms	1930.2	2.11	Nizhnii Novgorod	441.9	1.23
TOTAL	58103.6	63.36	TOTAL	27996.5	78.02

Source: Goskomstat (2003).

on to a subsidiary 'trading company'. That trading company is often located in Moscow rather than the resource-producing region. Furthermore, that trading activity is recorded as a service activity (see OECD 2004: 20 for a further discussion). The impact of transfer pricing is quite clear in Table 5, where Moscow accounts for just over 25% of Russia's exports, but the major oil and gas regions are located in Tyumen Oblast (West Siberia). In fact, with the exception of Moscow and Leningrad, all of the other top ten regions have some degree of resource specialization. The problem with the import data is a more general problem in that it does not identify the final region where imported goods were utilized. Thus, the top 10 regions contain all of Russia's major port regions, plus the Moscow region, and one or two major industrial centres. Consequently, the geography of exports and imports are different. The exporting regions are predominantly in the Volga-Urals region and Siberia, while the importing ones are the port regions in the northwest, south and east, plus the major urban agglomerations in European Russia and some resource-rich regions in Siberia. Howev-

er, viewed across the entire 89 regions there is actually a close coincidence between importing and exporting regions. The correlation between the two data sets mapped in Figures 4 and 5 is actually 0.8, this is likely because the greatest number of regions have a low level of involvement in both imports and exports. As Table 5 shows, the top 10 regions account for 63.4% of exports and 78% of imports, but only three regions appear on both lists. So we can conclude that Russia's exports are predominantly generated by the natural resources from regions in the Volga-Urals and Siberia and the imports are principally aimed at satisfying consumer demand in the major urban agglomerations and some resource-rich regions. So what of foreign direct investment, is that also replicating the relationship between foreign economic activity and regional development that emerged in the late Soviet period?

THE GEOGRAPHY OF FOREIGN DIRECT INVESTMENT IN RUSSIA

The previous section demonstrated that very little has changed in terms of the interrelationship between foreign trade and regional

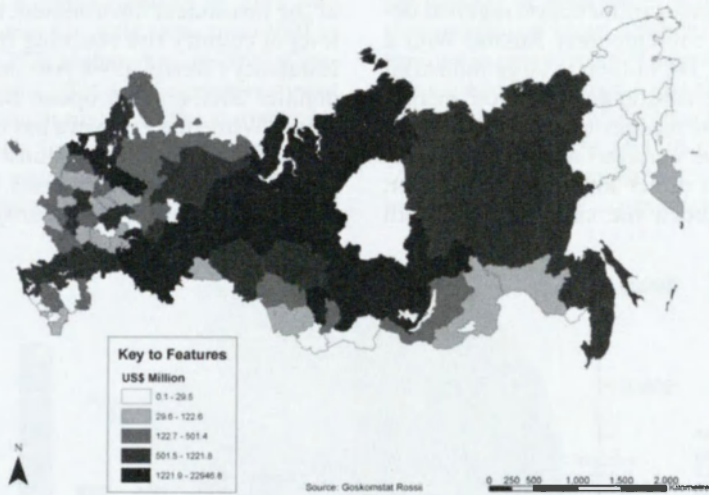


Figure 4. Exports from Russia's Regions in 2002 (to non-CIS countries).

development. Foreign direct investment represents a close proxy for our earlier study of technology transfer. The greatest difference being, as noted in the introduction, that under the Soviet system the process was orchestrated by the central state, in Russia today it is individual companies, both foreign and domestic, that are the principal decision-

makers in the investment process. Has this resulted in a different relationship between foreign direct investment and regional development?

In the previous discussion it was necessary to guard against ascribing too much significance to the impact of technology transfer on the Soviet economy, so one must not

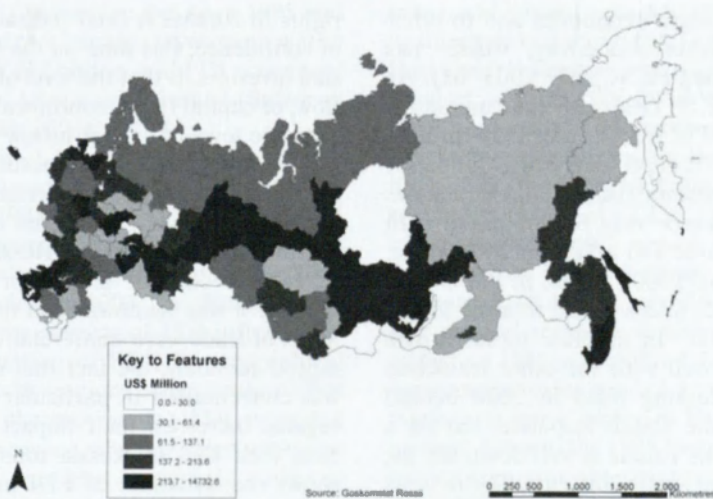


Figure 5. Imports to Russia's Regions in 2002 (to non-CIS countries).

see FDI as a major influence on regional development in contemporary Russia. With a population of 146 million, a large industrial economy and substantial resource wealth, there are good reasons to expect that Russia would have emerged as a major attractor of foreign direct investment. However, this has not been the case. Relative both

of the investment environment and the high level of country risk resulting from political instability (Westin 1999, Ahrend 2000, Cordonnier 2002 and European Business Club 2003). While the Putin era has brought relative stability, the actions against the oil company Yukos and other events have undermined confidence in the security of property

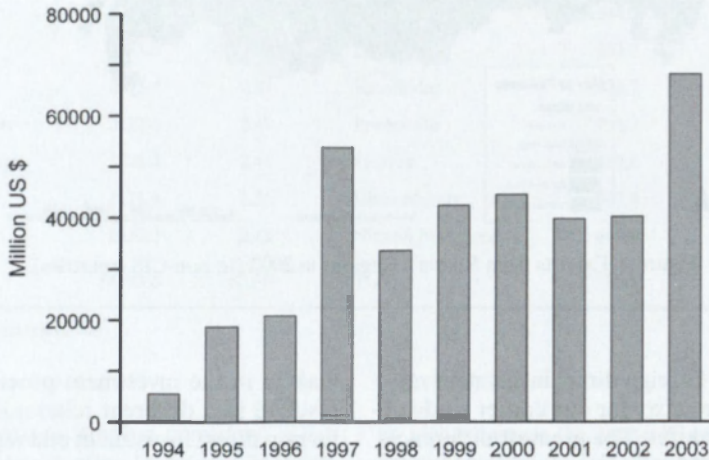


Figure 6. The Dynamics of FDI inflow into Russia 1995–2003.

Source: Goskomstat Rossii (various years)

to other transition economies and to other emerging market economies, Russia has underperformed (UNCTAD 2003: 62). As Oğutçü (2002: 3) observes: 'the cumulative figure for FDI in Russia from 1991 through the end of 2001 represents \$18.2 billion, or only 5% of domestic fixed capital formation. This performance may be compared with FDI in China of \$46 billion in 2000 alone, and more than \$2000 billion in the United States in 2001, and a global total of \$1,270 billion in 2000.' In absolute terms Russia is compared well with the other transition economies, coming third in 2000 behind Poland and the Czech Republic; but on a per capita basis Russia is well down the list (Bradshaw and Swain 2003: 61). The reasons for this relative underperformance are well understood and relate to the unstable nature

rights in Russia. A final indicator of a lack of confidence, this time on the part of Russian investors, is that the level of capital outflow, or capital flight, continues to be higher than the level of capital inflow. If Russians lack confidence in the domestic investment environment why should foreign companies invest? As we shall see, some of this flight capital is now returning to Russia.

In the case of East-West technology transfer it was acknowledged that while the levels of trade were small relative to the domestic economy, the fact that such activity was concentrated in particular sectors and regions increased their impact. Is this the case with FDI in Russia today? Figure 6 shows the dynamics of FDI in Russia between 1995 and 2003; during this period the level of FDI averaged about \$3.7 billion. The

figure shows a distinct upturn in 2003, and first half figures for 2004 show total FDI at \$3.4 billion, 35% higher than in 2003 (Goskomstat 2004b). Total foreign investment in Russia is much higher as the statistics include portfolio investments and a category called other, which is primarily credits from international financial organizations, such as

the context of post-Soviet economic transition provides a large number of new opportunities as new sectors of activity, such as the service economy, need to be developed and the antiquated industrial base requires modernization if it is to remain internationally competitive. Furthermore, the labour force in most transition economies is well edu-

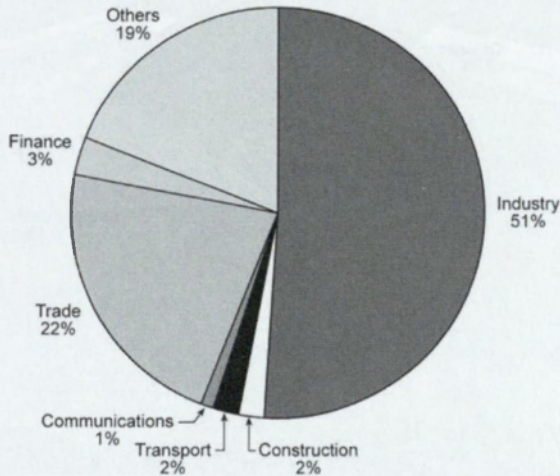


Figure 7. Sectoral Structure of FDI in Russia in 2003.

Source: Goskomstat (2003)

the EBRD.² On average, between 1995 and 2003, annual total foreign investment was in the region of \$13 billion, and FDI accounted for *c.*37% of total capital inflow (Safronov and Mel'nikov 2004).

Elsewhere I have analysed the nature of FDI in Russia in considerable detail (see Bradshaw, 1995, 1997 and 2002). Below I present a summary based on that previous analysis, updated to include data for 2003 and the first half of 2004. The discussion focuses on three aspects of FDI inflows: the sectoral structure of FDI, its geographical origins and its regional distribution. The theories on the motives for FDI suggest a number of reasons why a foreign company might invest in a host country. In addition,

cated and labour costs are relatively cheap by international standards. Consequently, in East Central Europe in particular, investors have set up production facilities to export to third markets; the automotive industry is a case in point (Smith and Pavlínek 2000, Pavlínek 2002, Bradshaw and Swain 2003). The sectoral structure of FDI in Russia suggests two motives: market access and resource development. In other words, the domestic market of 146 million people and the Russia's natural resource wealth are the main attractors (Mayer and Pind 1999). Producing manufacturing goods for exports to third markets is not a factor in Russian FDI at present. Prior to the 1998 financial crisis the service sector was the major recipient of FDI, post-1998 industry has come to predominate with the oil and gas and food industries re-

² The European Bank for Reconstruction and Development.

ceiving the most investment. The sectoral structure of FDI is illustrated in Figure 7. In 2003, the fuel industries alone accounted for 56% of total FDI in Russian industry (Safonov and Mel'nikov 2004). Figure 8 shows the geographical origins of accumulated FDI in Russia at the beginning of 2003. The re-

where the best investment opportunities are compared to their foreign competitors.

Data on investment by sector and by geographical origin suggest that returning flight capital is aimed at the retail and service sectors of the economy, rather than industry (Goskomstat Rossii 2003). Data for the

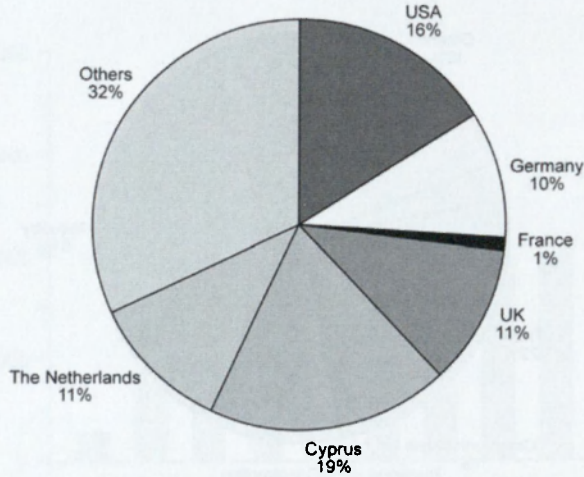


Figure 8. Accumulated FDI by major investing countries (as of 1st January 2004).

Source: Ilyukhina (2004)

sults may seem somewhat surprising: Cyprus (\$5.1 billion) is the single largest investor, followed by the United States (\$4.3 billion), the UK (\$2.8 billion), the Netherlands (\$2.8 billion) and Germany (\$2.5 billion). Luxembourg and the Virgin Islands also figure in the top 10 investors, although they are not shown on Figure 6. Japan, a major source of FDI for the global economy, ranks 9th, with an accumulated investment \$1.3 billion. Obviously, the appearance of Cyprus, Luxembourg and the Virgin Islands in the top 10 reflects the return of Russian 'flight capital' and in a sense it is not 'foreign' investment. However, it does suggest that Russian entrepreneurs are increasingly optimistic about the prospects for the Russian economy as they are willing to invest funds offshore in the domestic economy. In addition, as 'insiders' these investors are better placed to know

first half of 2004 (Goskomstat Rossii 2004b) show even greater evidence of returning flight capital, with Iran, Gibraltar and Liberia figuring in the top 10, while the relative status of the United States is much diminished. If one strips away the flight capital elements of Russian FDI, then the United States and the core economies of the European Union are the major investors and the current dynamics suggest an increasing role for the EU relative to the United States. This is certainly the case when one looks at the Russian oil and gas industry where companies such as BP and Royal-Dutch Shell are substantially increasing their investment activity in Russia.

The final section of this analysis focuses on the geographical distribution of FDI in Russia. Figure 9 shows the distribution of FDI by Russia's seven federal districts, while

Figure 10 maps cumulative FDI per capita at the oblast level. Table 6 shows the top ten recipient regions in the period 2000–2002, plus accumulated FDI for the period 1995 to 2002. Because the total volume of FDI is relatively small in any given year, it is possible for one or two projects to change the

Leningrad Oblast explain the relative significance of the Northwest.

In the case of the Southern District, FDI has been significant in the food industry and there has been a construction boom related the construction of an oil pipeline from Tengiz in Kazakhstan to Novorossiisk

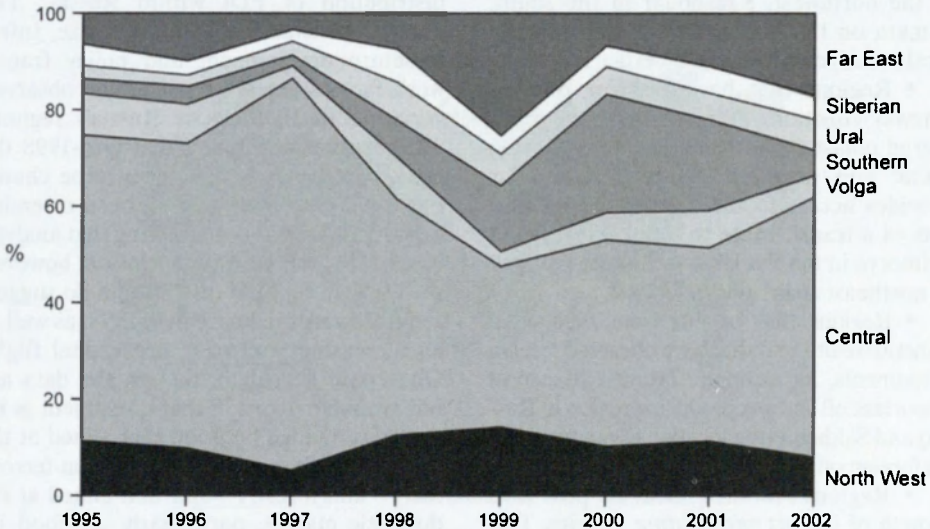


Figure 9. Distribution of FDI by Federal District, 1995–2002.

Source: Goskomstat Rossii, various years

regional pattern of FDI. There has been one constant, the dominance of the Moscow region (defined as Moscow city and the surrounding Moscow oblast); however, in recent years that dominance has dwindled. In the mid-1990s, when the service sector was the major recipient of FDI, well over half of FDI was destined for Moscow city. Since the 1998 financial crisis, industry has attracted the majority of FDI, and the share of the capital city has declined relative to the surrounding oblast. Since then, the majority of FDI in Russia has been located outside the Moscow region, although in 2002 the Moscow region did reclaim its dominant position. At Federal District level the changing fortunes of the Central District are entirely due to Moscow region. St Petersburg and

in Krasnodar Kray. The position of the Far Eastern District is largely explained by the multibillion-dollar oil and gas projects offshore of Sakhalin Island. Figure 8 and Table 6 illustrate that FDI in Russia is actually concentrated in a relatively small number of regions.

On average, the top 10 regions account for well over 75% of total FDI in Russia. Furthermore, the list of regions appearing in the top 10 is relatively stable. Given that there are 89 federal subject or regions within the Russian Federation, the majority of Russian regions are untouched by foreign investors. On the basis of previous research it is possible to identify a number of different types of region among the major recipients of Russia's FDI (Bradshaw 2002: 38).

- The Moscow region (Moscow city and Moscow oblast) that serves as the premier entrepot and the control centre for the national economy. Moscow is also a major market in its own right.

- A number of regional industrial/financial centres that serve a regional market; St Petersburg and Leningrad oblast in the northwest, Krasnodar in the south, Samara on the Volga, Ekaterinburg in the Urals and Novosibirsk in Siberia.

- Regions that have a major port or gateway function: St Petersburg and Leningrad oblast act as Russia's gateway to the Baltic and northern Europe; Krasnodar provides access to the Black Sea and also acts as a transit route to Central Asia; and Primorye in the Far East acts as the gateway to northeast Asia and the Pacific.

- Regions that benefit from substantial mineral wealth and that have attracted foreign investments, for example, Tyumen (the most important oil and gas producing region in Russia) and Sakhalin (the location of the two largest foreign oil and gas projects in Russia).

- Regions benefiting from the post-1998 growth of import substituting activity. This activity, which is diminishing as the rouble continues to appreciate, serves to reinforce the dominance of the regional/industrial

centres located in the European regions of the country.

This typology is based on over a decade of research into FDI in Russia, a more quantitative analysis has been presented by Broadman and Recanatini (2001: 2) who use econometric analysis to 'unbundle empirically the determinants of the regional distribution of FDI within Russia.' The analysis concludes that market size, infrastructure development and policy framework factors explain most of the observed variation in FDI across Russia's regions. The results also suggest that post-1998 the factors influencing FDI seem to be changing, but the analysis has not been extended beyond 1999. Without updating that analysis it is difficult to test this conclusion; however, the data on sectoral distribution do suggest a shift towards industry post-1998, as well as an increasing level of return capital flight. One could speculate, though the data are not available to test it, that investment in industry is divided between that aimed at the resource sector—oil and gas, non-ferrous metals and forestry—and that aimed at the domestic market, particularly the food industry. These two investment streams have quite different geographies—the resource sector being predominantly in the northern

Table 6. Top Ten Recipients of FDI, 1995–2002

2000	%	2001	%	2002	%	Total 1995–2002	%
Moscow	33.25	Moscow	29.01	Moscow	37.7	Moscow	39.62
Krasnodar	21.65	Krasnodar	17.24	Sakhalin	16.99	Moscow Obl.	9.40
Sakhalin	5.56	Sakhalin	9.41	Moscow Obl.	14.72	Sakhalin	8.64
Leningrad	4.64	Moscow Obl.	7.86	Tyumen	4.22	Krasnodar	8.12
Moscow Obl.	4.63	Leningrad	5.98	Leningrad	2.88	St. Petersburg	4.28
Novosibirsk	3.43	Samara	2.96	Sverdlovsk	2.49	Leningrad	3.41
Tyumen	3.34	St. Petersburg	2.87	Samara	2.44	Tyumen	2.51
St. Petersburg	3.31	Tyumen	2.77	Arkhangelsk	2.41	Samara	2.26
Volgograd	1.74	Sverdlovsk	2.55	Krasnodar	2.25	Novosibirsk	2.04
Kaluga	1.68	Novosibirsk	2.24	St. Petersburg	2.10	Sverdlovsk	1.85
Top 10%	83.23	Top10%	82.89	Top 10%	88.2	Top 10%	82.13

Source: Goskomstat Rossii (2003).

and eastern regions and the market-oriented sectors in the major urban centres of European Russia. This is a pattern that is discernable in Figure 10 and Table 6.

The analysis presented above shows that FDI in Russia has been concentrated in a relatively small number of regions. Broad-

can conclude that, like technology transfer, the pattern of FDI is serving to reinforce centre-periphery relations in Russia and is contributing to the uneven pattern of regional development. The significance of port and gateway regions is one major departure, and one that is amplified by the impact of

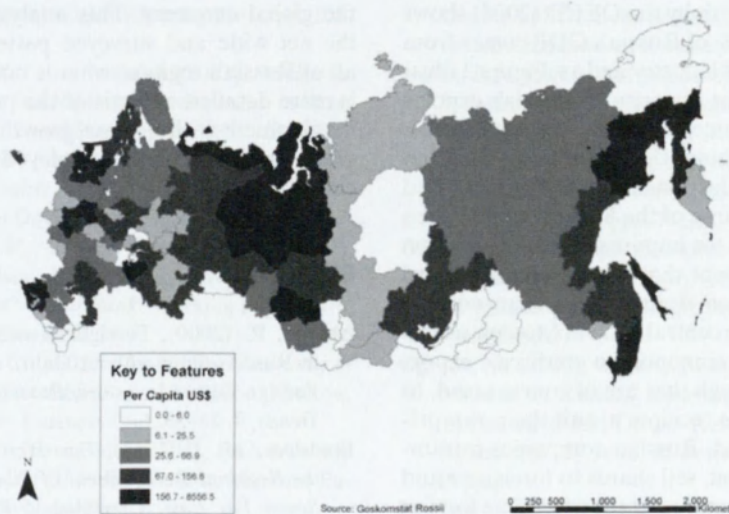


Figure 10. Cumulative Foreign Direct Investment (FDI) Per Capita in Russia's Regions, 1995–2002.

man and Recanatini (2001: 3–4) suggest that, '... it is arguable that the unevenness in the distribution of FDI to date is contributing to the skewed pattern of the country's regional economic development as well as other discrepancies between the regions.' When we compare the interrelationship East-West technology transfer and regional development with that of FDI and regional development we find both continuity and change. Continuity in the sense that the resource industries of Siberia and the Far East are the beneficiaries of such investment; change in the sense that inflows of FDI are far more governed by the weight of the consumer market than was the case with technology transfer in the late Soviet period. That said, the spatial impact is the same, the majority of this 'market-oriented' investment is in the European regions of the country. Thus, one

foreign trade activity, and is a clear reflection of the geographical impacts of internationalization.

CONCLUSION

The analysis presented above suggests that when it comes to the relationship between foreign economic activity and regional development in Russia there is as much, if not more, continuity as change. Those regions that are most actively engaged in foreign trade today are largely the same regions as during the Soviet period, namely the resource-producing regions of Siberia and, to a lesser extent, the Far East. This is a reflection of the fact that Russia's global comparative advantage remains the export of natural resources, or, put another way, Russia remains uncompeti-

tive as an exporter of manufactured goods. In fact, as a result of the transitional recession of the early 1990s, the Russian economy as a whole is far more dependent on the resource sector than it was during the late Soviet period. Much of the defence-related smokestack industry that was favoured by Soviet planners has not survived the transition to the market. A recent analysis by the OECD (2004) shows that some 20% of Russia's GDP comes from the oil and gas industry and as, Figure 3 illustrated, the vast majority of Russia's exports are now accounted for by the resource sector. Thus, if anything, the reliance on Siberian resource production has actually increased since the collapse of the Soviet Union. When one considers the import side of the equation there is no doubt that the process of inward investment has dramatically changed. No longer can the central state in Moscow use its foreign trade monopoly to confiscate export earnings, though they are of course taxed, to then use those receipts to suit their own priorities. Instead, Russian companies can import equipment, sell shares to foreigners and create joint ventures, at the same time foreign companies can create their own legal entities in Russia. Interestingly, the geographical pattern of inward investment is actually not that much different, there is a clear divide between European Russia and Siberia, but with a greater share of FDI going to resource regions such as Tyumen and Sakhalin than would have been the case in the Soviet period; but overall, most investment is attracted to the major urban centres in European regions. The one big difference is the role played by port/gateway regions. During the Soviet period ports were considered a strategic asset and foreigners were not encouraged to journey to them. Now, regions such as Krasnodar, St. Petersburg and Vladivostok are able to cash in on their strategic location for economic gain. Overall, one would have to conclude that now, as in the Soviet period, involvement in foreign economic activity is serving to amplify the domestic forces driving regional inequality. Not surprisingly, the regions most involved in foreign trade and benefiting the most of inward investment are

the most dynamic regions of the country. Today, the top 10 regions in Russia account for 51% of gross regional product, 63% of non-CIS exports and 88% of FDI and a shortlist of regions are to be found in all three lists. In other words, Russia's economy is now highly concentrated into a few regions and these regions are also major points of contact with the global economy. This analysis has cast the net wide and surveyed patterns across all of Russia's regions; what is now required is more detailed analysis of the processes of development within those growth regions to determine the role that is played by foreign economic activity.

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A NEW TOOL FOR ECONOMIC GROWTH: THE ROLE OF INNOVATION IN THE TRANSFORMATION AND REGIONAL DEVELOPMENT OF HUNGARY

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Abstract: The paper is concerned with the role of innovation during the transition period. It presents indicators of the national innovation system and spatial impact of the economic transformation on research and development. While in the early transition years, spatial differences were largely determined by FDI in manufacturing, the new directions of innovation have recently become the main driving force that differentiates economic space. Preconditions for the innovation-led development are to a large extent jeopardized by the shallower innovation potential of the regions and the dominant role of Budapest. The final section deals with the regional policy implications, discussing the innovation-oriented regional policy approach.

Key words: economic transformation, national innovation system, R&D, geographical disparities, regional innovation policy.

INTRODUCTION

A great part of economic growth is attributable to technological improvement and innovation in the wider sense, whereas capital accumulation explains only a smaller fraction of it. In the developed countries, 80% of the increase in productivity is due to some form of innovation. Innovation is vital in increasing the productivity of companies, improving export capacity, creating employment, and improving the level of services, in one word: increasing economic competitiveness. We use the term innovation to refer to the producing and transferring of new knowledge. Knowledge and access to it has become the driving force behind growth and competitiveness in advanced economies (Gal 2002).

Until the early 1990s, innovation and technology policy was oriented towards the

national growth target. Spatial implications existed only rarely, in relation to the geographical distribution of public support. In the era of the knowledge-based economy, innovation (as one of the primary sources of economic activity) is no longer limited to technological innovations only, but being also linked to systemic and network approaches that emphasize the importance of spatial proximity and regionally-organized production (Koschatzky 2003). Recent research on innovation systems focuses not only on the technological and socio-economic dimension of innovation, but also on the spatial aspects of innovation-related interactions (Cooke et al. 1998). The significance of space in innovation is indicated by empirical research showing that the production of new knowledge and innovation has a predominant tendency to concentrate and

cluster spatially. Spatial concentrations in innovation are more significant than those in manufacturing (Varga and Szerb 2002). Geographical proximity could be instrumental in facilitating knowledge flows and face-to-face contacts among the actors of innovation networks, which can be observed at various spatial levels. Supporting the arguments of Camangi (1991), Cooke and Morgan (1993) and Castells (1996), global, national and regional innovation systems have been discussed in the literature (Braczyk et al. 1998).

The research on innovation theory carried out in the 1990s aimed at an exploration of the close correlation between regional development and technological change, and the relations with regional innovation potential (Cooke et al. 1998, Todtling 1999). For the generation of competitiveness in regions, it is necessary for knowledge and innovation capacity to be transferred in a broad circle. For backward regions, the utilization of the new economic possibilities offered by the information society can be a breakout point, thanks to increasing innovation capacities. Both research and development (R&D) and high-tech industrial activities are highly concentrated in the core regions of the EU. This reflects wide regional differences in access to knowledge and the ability to exploit it. Unless the differences can be narrowed, it will be difficult to achieve the Lisbon strategy objective entailing the UE's becoming the most dynamic knowledge-based economy in the world. Answering this challenge, the EU is assuming that R&D and innovation have to be embedded in specific regional contexts (Koschatzky 2003).

The reality is that the economies of the less-favoured regions suffer from being isolated from the best international R&D networks and centres. SMEs in these regions, in particular, have difficulties in accessing the latest technological developments. This feature appears more striking in the case of the new member states of East-Central Europe, in which these disparities are not only greater but also very much influenced by the socio-economic transformation of

the former communist countries during the 1990s. The transition to a market economy in the CEECs has had a strong impact on both the enterprise sector and the innovation performance of the countries. The restructuring of the enterprise sector has been led by foreign direct investment which created a dual economy situation of highly-productive foreign enterprises on the one hand and domestic firms with less potential to innovate or compete on the other. The potential for their catching up on the basis of new technologies is restricted severely by weak demand for R&D on the part of enterprises at the beginning of the transition. The early years of transformation were also characterized by a decline in research infrastructure and a mismatch of national innovations systems. Thus innovation cannot be examined independently from the performance of the transition and post-transition economies as a whole (Inzelt 1998).

Nowadays, economic growth cannot be sustained in these countries by the same factors as applied during the transition period of the 1990s. Recent trends in labour productivity suggest that the new member states will only be able to sustain higher rates of growth through increased technological change and innovation, rather than through non-investment factors. Now that Hungary has successfully been transformed into a market economy, the most promising route to further modernization is to follow the path of knowledge-based economic development. For the post-transition countries, the emergence of a knowledge-based economy means a double challenge: during the transition, the additional requirements of a knowledge-based society must be taken into account while the widening of the economic and regional gap is at the same time avoided. This raises a question as to what the capacity of Hungarian science and technology is, the institutional system of innovation support, and the entrepreneurship upon which the country can build in the long run. Another way entails an appropriate regional policy that reduces the cost of innovation or increases its diffusion, so as to diminish

regional income disparities and increase the growth rate (Lackenbauer 2004).

This paper deals with the Hungarian experience as regards innovation during the transition and post-transition periods, demonstrating the overall impact of the transformation on Hungarian innovation performance and on the main statistical (input) indicators as regards of the national innovation system. As there are less reliable data available on R&D outputs, the contribution of research achievement to the competitiveness of the economy is only partially examinable. The paper also introduces spatial disparities in innovation occurring at different territorial levels. The final section deals with the implication of regional policy, discussing the conflict between growth and balance-oriented policy approaches in the innovation field.

THE NATIONAL INNOVATION SYSTEM IN HUNGARY

Innovation is no longer an activity of lonely inventors, but rather a collective process in which different activities (R&D, innovation at company level, technology transfer, etc.) are interconnected. In the innovation process, the science and technology (S&T) sector still plays a decisive role. In the course of the 20th century, Hungarian science made a successful and universally-recognized contribution to world science. Historical experience suggests that Hungary might have a good potential in this respect, as indicated by the disproportionately large number of Hungarian-born Nobel laureates, or the important inventions developed by Hungarian scientists. The former statement can be misleading if we do not take into consideration the fact that all of the Hungarian Nobel prize winners made their scientific achievements abroad. The Hungarian R&D results and the human background might be good, and internationally respected, but Hungary underperforms thanks to the modest role applied research plays in aiding economic development (Török 2002).

Hungarian scientific life can be regarded as one of Hungary's principal competitive advantages, and so one of the main sources of growth. The considered productivity in terms of scientific publication ranks Hungary better in terms of the number of publications relative to R&D expenditure, than when account is taken of the number of publications per million head of population, in regard to which Hungary stands only in 23rd place within the OECD and in second place among the CEECs (Table 1). In regard to technology productivity measured by US patent applications per million US\$ R&D expenditure, Hungary immediately follows the outperforming Scandinavian countries, Switzerland and Germany, whereas according to the patents relative to population is in worse position (Table 1). We consider that scientific productivity is strongly correlated with overall levels of GERD (Gross Expenditure on Research and Development), and the ratio of R&D personnel employed. It should be noted that in terms of productivity, the Hungarian R&D system, despite rapid decline early in the transition and rather limited financial backing, is not lagging behind—as was often assumed at the outset of the transition. In international comparison, Hungary's overall international position of 26–27 in S&T, is still better than the country's position in the TOP-50 in economic development (Török 2002). This average in S&T is composed of good indicators for human capital and bad ones for financing (Table 1). Given the expenditure on R&D and the number of researchers, the Hungarian R&D system is producing relative levels of outputs exceeding those of the EU cohesion countries¹ (Inzelt 1998).

Hungary, like other CEECs, went through economic transformation, experiencing heavy losses in R&D expenditure. During the communist era, research and technological development was given a high political priority, particularly in certain special industrial sectors. R&D activities were mainly carried out in public industrial

¹ Greece, Ireland, Portugal, Spain

Table 1. Innovation performance in Hungary and other selected countries

Country	No. of publications in universities and R&D institutes, 2000		No. of European patents per 1 million inhabitants, 2000	Gross R&D expenditure as a percentage of GDP, 2000	Business R&D expenditure as a percentage of GDP, 2000	Share of government in R&D funding, 2001 %	Share of business sector in R&D funding, 2001 %	Share of foreign-owned enterprises within total BERD, 1996–1998 %
	per 1 million inhabitants	per 1 million USD of...						
USA	594	52.8	309.1	2.70	2.04	27.3	68.2	18
OECD	406	—	83	2.24	1.56	28.9	63.9	—
EU—15	460	—	126	1.88	1.21	35	55.5	—
Germany	454	—	229.3	2.48	1.69	30.7	66.9	21
UK	665	91.5	90	1.86	1.22	28.9	49.3	38
Finland	778	76.3	186.8	3.37	2.18	26.2	70.3	17
Austria	441	67.2	158.9	1.80	1.28	40.3	40.1	—
Ireland	327	—	66.4	1.26	0.84	21.8	64.1	69
Italy	297	—	112.5	1.04	0.56	53	41.7	25
Spain	308	77.4	46.8	0.94	0.46	38.6	49.7	41
Portugal	151	—	8.8	0.75	0.17	69.7	21.3	18
Slovenia	—	—	98.7	1.52	0.68	40.0	53.3	—
Czech Republic	195	68.1	22.2	1.35	0.81	44.5	51.2	29
Poland	117	63.8	26.4	0.70	0.31	63.4	32.6	—
HUNGARY	195	107.2	29.8	0.90	0.28	49.5	37.8	79

Source: Author's calculations based on the data from OECD STI Outlook, 2002.

research centres. Although the activities of these research centres were dedicated to the support of the development in specific industrial branches, they resembled most 'Fordist' innovation systems, in that they had little interaction with industry. During the transition, R&D activities have diminished significantly on account of both public and private funding for R&D having been reduced drastically. The number of people employed in the sector decreased, following the halving of the number of R&D units.

The dramatic decline in markets and restructuring of large firms that were the main customers for R&D led to a sharp decline in business R&D expenditure (BERD). In Hungary the past decade has brought, not only the termination of applied research in large companies, but also a substantial decline in domestic solvent demand for

modern technology applicable in production. This process was compounded not only by the closure of the large industrial R&D institutes, but also by the restructuring of the main profile of these institutes, as many of them sought out new sources of revenue in short-term services, rather than in long-term research projects. Nevertheless, some surveys indicate that the innovative capability of the Hungarian economy has been weakened to a lesser extent than has the ability of enterprises to utilize innovation effectively (Inzelt 2002). Despite the sharp decline in the industrial research institutes, the Hungarian Academy of Sciences (the major autonomous scientific public body) managed to maintain its network of 37 research institutes nurturing basic and applied scientific research. These trends are illustrated by fluctuations in R&D expenditure throughout the transi-

tion period, showing a sharp decline until 1996. The highest level of R&D *investment relative to GDP* was achieved in 1987 (2.7%), only to decline rapidly to 1990 (by 1.61%), with the lowest rate being reached in 1996 (0.67%). Since 1999, R&D expenditure has stabilized and started to increase to the point where Hungary had reached 1.01% expenditure by 2002. This expenditure as compared to GDP is about half the EU-15 average level, and is similar to levels in the cohesion countries (though slightly better than in Poland and Slovakia). Nevertheless, it was lower than the figures for Slovenia and the Czech Republic, which are much closer to the EU average (Table 1). Besides the knowledge-creation indicators detailed above, the transmission of applicable knowledge is measurable by different figures. First of all BERD relative to GDP demonstrates business activities in generation of applied knowledge. In the developed countries, the business sector dominates as a performer of R&D. The percentage of GERD performed by the business sector has reached 70% in the OECD countries, exceeding the 60% noted in the EU-15. Hungary's share of the BERD only accounted for 38 % in 2002 after it had declined from 56% post 1990 (corresponding figures for in the Czech Republic and Slovenia are 60% and 55%). R&D investment relative to GDP funded by the business sector was also low (0.3%) in the international comparison (Table 1).

Innovation and technology transfer depend greatly on the willingness of companies to innovate—something which can be measured by reference to the shares of innovative companies and of innovation expenditure in sales revenue. There is a close correlation between the innovative efforts and the income-generating capabilities of companies and the innovation performance of firms determined primarily by the efficiency of their own R&D activities (Döry 2000). The share of BERD is lower than the EU average, but Hungary still has an advantage regarding its BERD relative to GDP, in comparison with Portugal and Greece. Nevertheless, the share of innovative companies (estimated at

22% in a survey of 1998) is found to be lower than in Slovenia (Papanek et al. 1999).

The restructuring of the enterprise sector in the transition period was led by foreign direct investment. This created a dual-economy situation of highly-productive and more innovative larger-sized foreign-owned enterprises on the one hand, and domestic firms with lower financial ability to innovate struggling to remain competitive on the other. The attracting of high-tech FDI in firms could have been expected to increase. The dual economic character is clearly indicated by the highest share of multinational companies in the national exports (65%), particularly in high-tech export within the OECD. Despite a relatively highest share multinational companies took in the national export (65%), particularly in the high-tech area in the OECD context. Despite a relatively large share of employment being in high-tech manufacturing, and there being average-to-good levels of ICT penetration in the economy, the potential for catching up on the basis of new technologies is severely restricted by the weak demand for R&D on the part of the the business sector. Multinationals relied on their higher productivity and had no interest in Hungarian R&D during the early transition. The R&D divisions of foreign companies usually concentrated in their home country. These companies tend to work on the basis of imported documentation, with a fixed choice of base materials and technologies. This was the era of the 'imported innovation' characterized by the mass amount of technology import on one hand, and by the decline of the Hungarian R&D sector on the other. However, the relatively significant role played by industry in the economy suggests that knowledge-creation via indigenous R&D is crucial to future technological upgrading and to elimination of cases of lagging behind (Inzelt 1999).

From the late 1990s on, a new form of research-based investments appeared in Hungary. Multinationals, besides paying attention to technology-transfer towards local subcontractors, have been encouraging spillovers to indigenous firms, and have established their

first industrial R&D units. The companies with foreign ownership have accelerated the innovation-related knowledge flows in two respects. First, technology transfer from other countries has gained in importance. Second, many foreign companies investors prepared to carry out research in Hungary by setting up R&D divisions or outsourcing R&D, something which, through the creation of a new demand, helped in restructuring business R&D activities. In Hungary, multinational companies increased their R&D expenditure five-folds between 1995 and 2000, while the share multinationals took within BERD increased from 22% to 80% (Table 1). The R&D expenditure by foreign companies grew faster than that by their indigenous counterparts (Nikodemus 2003).

There is a very disproportionate composition of R&D expenditure if we take into account the fact that SMEs have only a 10–12% share of the total (Mogyorosi et al. 2003). It is obvious that the majority of these firms are unsuited to carrying out independent research and development. Available surveys lead to a conclusion that the overwhelming majority of SMEs are not undertaking innovation. There are no countrywide innovation surveys available at the company level, but some regional findings (e.g. in Baranya county) offer support for our previous argument. Only 25% of the surveyed SMEs were found to have introduced products and technology in the period 1998–2000 (Inzelt and Szerb 2003). Despite policy expectations regarding a shift in the balance from large enterprises to new innovation-oriented SMEs, it is large firms, that continue to engage in the majority of innovation activities, although through supply chain networks in certain sectors the share of innovation-oriented SMEs rises rapidly. Hence, innovation policy needs to strike a balance between state support going to SMEs and to large firms.

In Hungary, the three main elements to the national innovation system (NIS) are the enterprises implementing a growing portion of innovation, the R&D units involved in the generation of innovations, and the support

institutions participating in innovation transfer. Beyond that is the science and technology policy of the state, which regulate these activities. Where the third element of NIS is concerned, it can be argued that the governments of transition economies had to withdraw from their former omnipotent position as decision-makers in the S&T policy and had to build up their new sphere of intervention as facilitators of innovation (Inzelt 2002). Although Hungarian NIS still lags behind the most advanced EU systems, after the long adjustment process of the transition it has taken a more proactive approach to S&T policy, renewing the institutional system and creating a new legal framework for the NIS.

THE REGIONAL STRUCTURE OF INNOVATION

Over the transition period there has been a rapid increase in the number of innovation-oriented small and medium size enterprises, which are less concentrated spatially and haveir needs are not necessarily concerned with high-tech industry developments. These new demands, and the change of innovation paradigm, place greater emphasis on the establishment of a decentralized institutional network promoting knowledge and technology transfer. Needed in addition to the revitalization of the traditional network of R & D institutions is a multi-polar innovation system with more actors, in which distribution-oriented 'knowledge bases' cooperate in a network. The types of resources involved in the field of innovation can include specific assets that are only available in a certain place and these assets usually depend on spatial proximity and concentration. The regional level is particularly appropriate for mobilizing a critical mass of partners able both to promote innovation and to implement it effectively at grass-roots level (Cooke et al. 1998). Synergies, or an innovative surplus, can arise from the shared knowledge of the local economic-social-cultural milieu, that promotes network linkages (Todtling 1994).

Several analyses have been done recently as regards inputs into and results of

the Hungarian R&D sector, though very few of them help us to examine the spatial processes of innovation (Döry 2001, Gal 2002). In what follows, emphasis is placed on territorial disparities as regards scientific and technological development in Hungary. What is clearly seen from other European countries is that R&D and innovation activities are highly concentrated in the core regions. In the European Union, just eight regions account for over a quarter of R&D expenditure, while thirty are responsible for half. As might be expected, there is a similar concentration of patents, as half of all high-tech patents are being made granted in just thirteen core regions (European Commission 2004). Location factors of innovation processes have to a large extent an agglomeration-driven character, varying in regard to existing spatial economic structures. The presence of a 'critical mass' of agglomeration in a metropolitan area is required if substantial economic effects of academic research are to be expected (Varga 2003). While in centralized economies, market-oriented industrial R&D activities are mainly confined to a few urban agglomerations, other countries are characterized by a more decentralized distribution of R&D activities (Table 2). Countries—irrespective of their spatial characteristics—have gained tech-

nological competitiveness in certain fields or are paying the price of still-existing regional inequalities. There are wide disparities between regions in terms of BERD, of greatest relevance to the assessing of the contribution made by innovative efforts to achieve competitiveness. The question is rather whether economies can succeed in flexibly adjusting their spatial distribution of innovation activities to the challenges that global technological competition poses.

There is a similar tendency in Hungary to in the EU, for the R&D expenditure is disproportionately concentrated in the most prosperous regions. This is evident in the new member states as well, where e.g. in Hungary and the Czech Republic over 60% of spending took place in the capital city and surrounding region. The level of spending relative to GDP in Central Hungary (in which Budapest is located), amounted to 1.75% (2% in Budapest itself), and likewise Prague taken together with Stredny Cechy accounted for 2.5%, a significantly higher proportion than in any region of Spain or Italy.² However, in the case of the new member states, the concentration of GERD and research employees in

² In Poland the expenditure in Mazowieckie voivodship, in which Warsaw is located, amounted to around 1.5% of GDP, over twice the level in any Polish region, except Malopolskie voivodship.

Table 2. Spatial concentration of R&D in selected countries (at least half of the R&D employees can be found in the following agglomerations)

USA 1995	Germany 1997	Italy 1995	UK 1995	France 1995	Czech Republic	Hungary 2000
New Jersey, Essex 9%	Munich 12%	Milano	London (South East) 41%	Paris (Île de France) 48%	Prague 32%	Central Hungary
Boston 8%	Stuttgart 12%	(Lombardy) 33%	East Anglia 11%	Rhône-Alpes 11%	Sredny Cechy 28%	64 %
Los Angeles 7%	Darmstadt 9%	Turin (Piemonte) 24%				(incl. Budapest 59%)
Philadelphia 6%	Rhine-Neckar 6%	Rome (Lazio) 10%				
Detroit 4%	Berlin 4%					
Chicago 5%	Düsseldorf 4%					
New York 4%	Brunswick 3%					
San José 3%	Cologne 3%					
Washington 3%						
9 regions	8 regions	3 regions	2 regions	2 regions	2 regions	1 region
49%	53%	67%	52 %	59%	60 %	64 %

Source: Koshatzky (2003) and the author's calculations.

the most prosperous regions owes much less to the location of business spending (except in Stredny Czechy). In Prague and Warsaw (and similarly in Budapest) government spending on R&D was much higher in the capital city regions than elsewhere in the country, though in the two latter cases this was accompanied by business spending that was also high, if less so.

Uneven spatial development is a basic concept in regional studies. During the transition years, territorial differences in regional conditions and their consequences appeared in various forms. New trends emerged in the national economy that stimulated the rise and expansion of new 'core' regions and also reinforced spatial disparities inherited from the former system. Thus unevenness is caused, not so much by differences arising from local/regional conditions creating a rather polarized spatial fabric, as by the accumulation and long-term persistence of disadvantages in some regions. While, in the early years of the transition, regional differentiation was spurred by the factors of economic crisis and decline, since 1996 the spatial structure has been formed chiefly by the factors of dynamism resting on economic restructuring. Disparities in innovation, measurable by different indicators have emerged and created a new spatial arrangement. In the early transition years, disparities alongside the traditional East-West division were determined largely by the directions of diffusion of innovation. Budapest, as the bridgehead for innovation, and North West Hungary became the major gateways for manufacturing-related FDI, which was the major transformer of the economic space. By the late 1990s, the traditional East-West division had been replaced by newly emerging innovation zones and 'isolated' innovation centres, as the diffusion of different forms of innovation extended towards the eastern parts of the country, and located near the regional university centres (Rechnitzer 1993). In the post-transition period, new directions to the diffusion of innovation are the main factors differentiating economic space, as knowl-

edge-based economic development became the most promising way to modernization and catch up (Rechnitzer et al. 2004).

In studying the territorial structure of innovation characterized by the main R&D indicators during the transition period, we can note the dominance of a dual effect, namely decreasing demand and declining financial resources for R&D. Research and development fell into crisis in the early 1990s as a consequence of a decline in government spending on the sector, and particularly because of the disintegration of large companies which had conducted their own research activities (Papanek et al. 1999). The difficulties of the sector are reflected in the changes in the number of employees. The number of employees in R&D institutions peaked in 1986 (at 48,745) and then declined sharply to have more than halved by 1995. Recently it has stabilized at around 23,000. The ratio of research staff relative to the active labour force reduced from 0.94 to 0.55% between 1988 and 1996, and has slowly risen back to 0.61% (by 2002). The national average for the number of researchers per 1000 head of the labour force is 3.9, i.e. below the corresponding EU and OECD figures (of 5.5 and 6.3) (OECD 2002). When the geographical distribution of R&D employees is taken into account, the predominance of Budapest is apparent, with its concentration of 59.3% of all R&D staff. The provincial R&D centres of higher education (Szeged, Debrecen, Pécs, Győr, Miskolc and Veszprém) together accounted for only 26.8% of all employees. Budapest and the Central Hungarian region together accounted for 64.1% of research staff (Table 3). It is followed, with a large gap, by the regions of the largest university centres (South Great Plains, North Great Plains). The forerunner counties of Western Transdanubia lag behind in these terms and, paradoxically, the North-Eastern region, the one most seriously hit by the structural crisis, has more R&D employees due to the presence of the originally engineering-based Miskolc University and research units in chemical industry. The territorial differences are more visible if we take the county level

Table 3. Selected innovation indicators of the Hungarian regions, 2002

Regions	Share in R&D units	Share in R&D employees	No. of researchers per 1000 labour force	Share in national R&D expenditure	R&D expenditure as percentage of regional GDP	Share of HE students
Budapest	42.9	59.3	12.5	64.8	2.04	37.3
Rest of country	57.1	40.7	3.1	35.2	0.60	62.7
Central-Hungary (with Budapest)	50.2	64.1	8.3	69.6	1.8	47
Central Transdanubia	7.0	5.6	1.7	6.6	0.72	7.2
West Transdanubia	6.7	4.0	1.4	3.2	0.34	7.4
South Transdanubia	7.9	4.5	1.7	3.7	0.56	8.5
North Hungary	5.6	4.4	1.3	2.2	0.29	5.9
North Great Plains	10.5	8.3	2.4	6.8	0.74	11.5
South Great Plains	12.0	9.1	2.6	7.9	0.90	12.3

Source: Author's calculations based on the data from Regional Statistical Yearbook, 2002, Hungarian Central Statistical Office.

into consideration. In this respect, counties in which the largest universities are located (Csongrad, Hajdu-Bihar, Baranya) are followed by counties with significant numbers of R&D employees in the foreign-owned manufacturing sector (Győr-Moson-Sopron, Pest). The remaining fourteen counties have only 16.1% of the national R&D workforce can be found in. The number of researchers per 1000 head of the labour force varies markedly from region to region. The figure is 12.5 for Budapest, while the rest of the regions is below the national average, with only the two Plains regions being at around 2.5 (Table 3). Figures on the regional distribution of R&D employees as a percentage of all employees demonstrate a similar trend with piques at 1.9 for Budapest and 1.28 for Central Hungary and the second highest figure to be found in the South Great Plains region (0.44), and the lowest in West Transdanubia (0.22).

The number of research institutions has fluctuated during the transition period, as a result of structural change. Until the mid-1990s, the number of R&D units of higher

education stagnated at around 1100. It then started to rise gradually due to the expansion of expenditure on university-conducted research, reaching 1613 university-based units by 2002. The industrial R&D units, being heavily hit by economic crises (there were 100 of them in 1993), increased significantly in number, reaching 670 in 2002. Looking at the regional distribution of the R&D institutes, the share of the capital city is the largest (42.9%) but is less dominant than in the case of employees. Central Hungary, with its 50.2 % share, was followed—distantly—by the South and North Great Plains. The distribution of R&D institutes in the Transdanubian regions has been evened up by the larger share of business units. The fewest units operate in North Hungary, the region hit seriously by the need for industrial restructuring (Table 3).

The shift from the centrally-planned to the market economy, and especially the transformation of enterprises, had a dramatic impact, not only on R&D infrastructure, but also on innovation finance, as clearly measurable by the cycles of R&D expendi-

ture. R&D is funded by various sources. The major division exists between the public and private funding. OECD classifications use four funding sector categories: governmental, business, non-profit and foreign. The government sector becomes the leading financier of R&D in those countries in which industry has been weakened by economic transformation; the role of other sectors is salient. It can be observed that the funding role of the Hungarian government sector has increased since 1990, although expenditure has decreased in real terms (Inzelt 2002). In 1990, the governmental share in R&D financing was 28.9%, a figure which had almost doubled by 1995 and had reached 59% by 2002. In parallel with this trend, the share taken by the business sphere in R&D has been diminishing. The proportion of business R&D expenditure was 70.1% in 1990, declining sharply (1991: 56%, 2001: 37.8%) to reach only 29.7% in 2002 (Table 1). Business expenditure declined faster than governmental expenditure grew. The level of economic development as measurable by the proportion of business enterprises as financiers/performers of R&D, which increasingly correlates with GDP per capita. The proportion of businesses as performers of R&D was 43% in 2001, roughly double the level in Portugal and Greece, and higher than in Poland (at 36%), but it lags behind the figures for Czechia and Slovenia (above 60%). The ratio of R&D funding from abroad—mainly through investment on the part of multinationals—has experienced the most rapid growth during the transformation period. While the share of foreign funding was 1% in 1990, it now exceeds 10%.

In terms of the spatial breakdown of the R&D expenditure within the country we can see a similar geographical distribution trend as is observed in the case of employees. The predominance of Budapest in funding is even higher (65%), indicating a strong concentration of innovation resources in the capital city. The significant share of expenditure is to a large extent reinforced by the Budapest Science Park investment aiming to encourage strong relationship between enterprises and

the research universities. As a consequence of innovation development concentrating into Budapest and the central region the proportion of Central Hungary in the expenditure accounted for 70% (Table 3). After a large gap, it is succeeded by the South and North Great Plains, with their higher absorption capacity due to local universities. Only the Central Transdanubian region could approach the eastern regions, owing largely to a strengthening of activity in business founding. Naturally the absorption capacity of the structurally-backward North Hungary results in the smallest share in expenditure. Paradoxically, West Transdanubia, in the vanguard in high-tech manufacturing through its attracting of FDI, was one place before last in terms of GERD. Enormous regional disparities in innovation finance highlighted almost 9-fold differences between the central region and the most advantageous provincial region (the South Great Plains) and also an almost 4-fold difference between the most- and the least-developed provincial regions (North Hungary) (Table 3). Taking into account the distribution of R&D expenditure at county level, we can see counties in leading positions with higher education centre (Csongrád, Hajdú-Bihar, Veszprém, Baranya), and with stronger agglomerations of business R&D units (Pest, Fejér, Győr-Moson-Sopron). The differences in expenditure breakdown observed at county level are more striking between the counties performing best (Csongrád) and worst (Nógrád) (133-fold), than between Budapest and Csongrád county (11-fold). This highlights the fact that the interregional differences are much greater than the gap between Budapest and the rest of the country, making clear the enormous increase in provincial level disparities within the country.

The figure on R&D expenditure as a percentage of regional GDP is one of the most reliable elements of appraisal. Only the central region (including Budapest) is above the national average (1.8). This figure for Budapest exceeds 2%. This strong agglomeration of R&D activities into the capital city can be explained partly by the

spatially-concentrated character of innovation in scale economies and partly by the longstanding tradition of scientific life in Budapest. Following the central region, the next largest figures can be found in the plains regions, which incorporate the largest traditional university centres (figures of 0.74 and 0.9). The rest of the country carries out very

regions. In these latter regions, R&D potential is distributed more evenly among research bases, including a higher number of business units among those. This difference lays in the origins of funding. While public spending dominates in the eastern regions, in the more-developed western regions BERD is markedly higher.

Table 4. Gross Domestic Expenditure on R&D/GDP dynamics in the Hungarian regions (1997–2002), %

Regions	1997	1998	1999	2000	2002	GERD/GDP % increase 1997–2002
Central Hungary	1.21	1.15	1.09	1.29	1.75	44.6
Of which Budapest	1.40	1.34	1.28	1.5	2.04	46
Central Transdanubia	0.44	0.33	0.29	0.36	0.72	64
West Transdanubia	0.26	0.27	0.25	0.20	0.34	31
South Transdanubia	0.29	0.27	0.29	0.41	0.56	93
North Hungary	0.19	0.28	0.18	0.23	0.29	52
North Great Plains	0.60	0.71	0.59	0.64	0.74	23
South Great Plains	0.56	0.56	0.63	0.65	0.90	61
National average	0.74	0.70	0.68	0.82	1.01	36.4

Source: Author's calculations based on the data from the Hungarian Central Statistical Office.

little R&D activity (Table 3). The dynamics of the growth measured in the last 5 years were highest in the relatively-underdeveloped South Transdanubia, as a direct consequence of the growth in public expenditure allocated to the universities. The growth rate was also high in Central Transdanubia, mainly due to business performance (Table 4). Taking the county and the settlement level into account, the striking differences in R&D expenditure/GDP are more visible (Figure 1). The highest figure for R&D expenditure, measured at county level, can be found in those counties in which regional university centres are located. Among these the figure for County Csongrád, in which the University of Szeged is situated, is comparable to that of Budapest. Nevertheless, territorial differences in the eastern regions, due to the greater R&D concentrations, are markedly larger than in the Transdanubian

Territorial innovation activity can be measured by other indicators, namely the number of R&D units per 1000 companies, the number of R&D employees per 10,000 persons, the number of scientists with doctoral qualifications per 10,000 persons, the number of patents per 10,000 persons, the number of R&D employees and R&D expenditure per 1000 persons, and National Technical-Development Fund expenditure per capita. Research using these indicators distinguishes between different types of area as regards innovation activity (Dory et al. 1998). Budapest as the core of innovation was followed by the innovation poles and knowledge centres growing near the provincial universities. Areas with significant innovation activities, which can be found in the north-western and central parts of the country are characterized by a balance between the business-oriented and the uni-

Statistical & Planning-Regions of Hungary

- I Central Hungary
- II West Transdanubia
- III Central Transdanubia
- IV South Transdanubia
- V South Great Plain
- VI North Great Plains
- VII North Hungary

VAS Countries

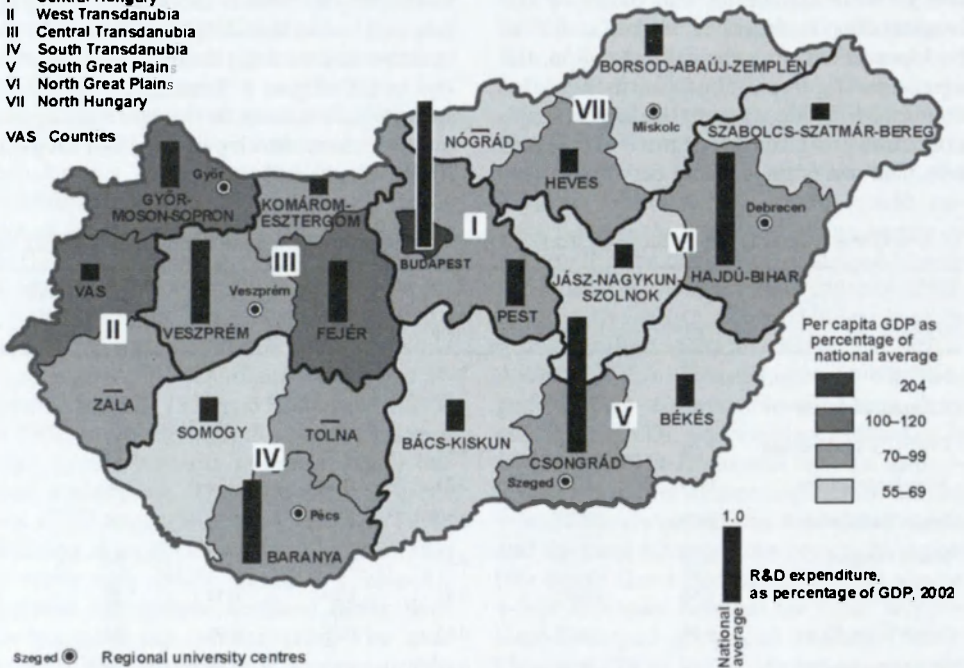


Figure 1. R&D expenditure in the Hungarian counties compared to the counties' GDP, 2002.

Source: Author's calculations based on the data from the Hungarian Central Statistical Office.

versity-related R&D activities. There are also large areas without innovation activity (Figure 2). Innovation is almost exclusively an urban phenomenon and one of the major factors determining urban competitiveness (Lengyel and Rechnitzer 2000). R&D expenditure is characterized by large-scale spatial concentration in larger cities, but is almost insignificant in small and medium-sized towns. Researchers have studied the innovation potential of the Hungarian urban network (Rechnitzer et al. 2004). They argue that, while during the transition period the transformation of the urban network was to a large extent determined by the traditional economic functions and institutional background, nowadays business services and knowledge mediators play an important role in the new economy. The strongest correlation with innovation potential was found for

higher education, R&D and human background. The urban network was divided into five groups by innovation capacity. The three cities as primary knowledge centres (Szeged, Debrecen, Pécs) were exclusively identical with the traditional university centres, in which all the determining factors show a favourable condition. At the same time, 70% of the urban network is characterised by a complete lack of R&D and tertiary education.

Besides the statistically well-established input indicators less reliable data is available in the field of R&D outputs (e.g. SMEs innovating in-house, SMEs' innovation expenditure, sales of new-to-market products, new capital raised/GDP). The output indicators demonstrate the contribution of research achievement to the competitiveness of the economy. The number of patent applications

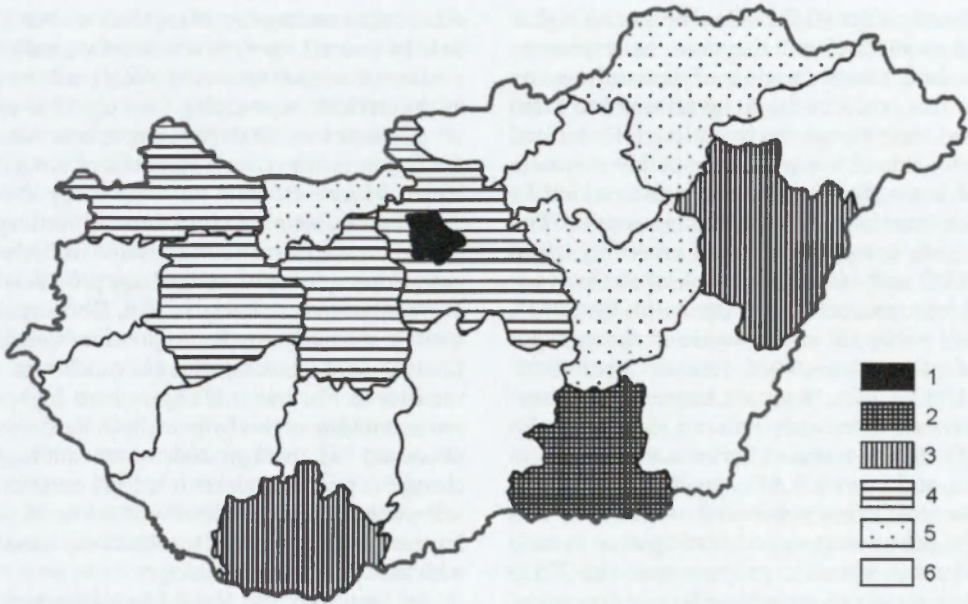


Figure 2. Spatial distribution of innovation activities in the Hungarian counties, 1996.

- 1—core area of innovation and scientific research, 2—poles of innovation activities,
 3—knowledge centers, 4—areas with significant business innovation,
 5—areas with modest innovation performance, 6—areas with a lack of innovation.

Source: Dory et al. (1998).

per 100 full-time researchers was 3.1 and in terms of the application per 1000 inhabitants Hungary was situated in the last section of the list of OECD countries in 2002. If we take applications by institutional branches into consideration, university-based R&D units are found to be less efficient in the utilization of basic research findings, since 1756 R&D units in higher education and public research institutes produced only 93 patent applications, in comparison with 225 produced by 670 business R&D institutes. These outputs do not justify the recent trend in Hungary, differing from the developed countries in that the proportion of basic and applied research grew faster in the expenses of business-related technology developments over recent years. On the other hand, the universities have a stronger position in terms of the number of publications, as they are responsible for almost three-quarters

of all scientific publications. However, if we take the number of publications of R&D units into account by settlement type, spatial inequalities are clearly visible. The share of Budapest based on articles published in scientific journals abroad has reached 56%, while the figure of 37.5% of the total is noted in the provincial university towns.

Higher education, which placed among the R&D performing sectors, is very much in the national interest as it plays a significant role in innovation processes. Due to their integration into the national and international knowledge pools and scientific networks universities are a potential knowledge source for companies located in their geographical vicinity. The economic attractiveness of the regions and spread of knowledge depend largely on a spatially-balanced network of university-based research facilities, with special regard to their relation

to companies (Gal 2002). The Act on higher education defined the tasks underpinning a dual transformation of the universities so that research might be returned to them and traditional universities transformed into research ones. The spatial structure of innovation is very much determined by the transformation of the universities. The rapidly-growing number of university-based R&D units (to reach an overwhelming two-thirds proportion of the total by 2002), was partly the consequence of the collapse of other state-owned research institutions (Inzelt 2002). However, most of the university-based research units are too small to be effective in terms of both share of researchers and overall R&D expenditure. Despite the cooperation between universities and the private sector, and participation in multilateral scientific programmes, the R&D budgets of universities are largely dependent on governmental subsidies. Although the sources of higher education have increased rapidly in the past few years, its share of total R&D expenditure did not grow so significantly (it increased from 20.3% to 27% between 1991 and 2002). Nevertheless, R&D sources of the universities have started to accelerate since 2002 such that, for example, the budget of the Higher Education Research Fund increased c. threefold between 2002 and 2004 (from 3.7 to 9.5 million EUR).

Higher education has a potential influence on regional development, not only because of its place in the R&D sector, but also because of its dominant position in the training of the experts responsible for producing technologically-developed products and competitive services. From this point of view, the rapid development of higher education, especially outside Budapest, plays a balancing role. The number of students has been growing rapidly since 1990, especially in the newly-established provincial tertiary education centres. The number of full-time students in 2002 (194 000) was higher by 280% than the figure for 1990. Nevertheless the higher-education profiles with regard to the distribution of disciplines record

differences among the Hungarian universities. In general, there is a relatively smaller portion of science and technology graduates in universities, accounting for only 13% of all graduates in 2002 (in comparison with the figure for the Czech Republic of almost 30%). Moreover, 80% of technology students (whose share of all students in tertiary education is 15%) are concentrated in Budapest. Consequently, even the large provincial university centres (Pecs, Szeged, Debrecen) have a relatively weaker representation in the technical sciences, whereas smaller universities in Northwest Hungary have higher representation of this (especially in the fields necessary as background to technology change (e.g. micro-electronics, informatics, automation). Universities therefore need to improve their potential to effectively assist with the change in technology).

In line with the spatial breakdown to the number of students, the concentration in Budapest is of 37.3%, less than with the other R&D indicators. Among the regions, Central Hungary is followed by the South and North Great Plains (12.3–11.5%) and—with a certain gap—by South Transdanubia. The rest of the regions have a lesser higher-education potential (Table 3). The recent regional structure to higher education considering the weight of the regional university centres is still below optimal. In spite of some progress having been achieved in the field of equal educational opportunities throughout the country (as is clearly indicated by the rapid increase in the number of students in the provincial universities), the share taken by the four largest provincial university centres after Budapest, in terms of number of students, still represents only a quarter of the total. This figure is equal to half or a third in European countries that are similar in population size (Horvath 2003). The structure regarding higher education in regions other than Budapest is more traditional, and the lack of reputed technical faculties in South Transdanubia and the Great Hungarian Plains can be considered a barrier to regional development. The share higher education takes in R&D expenditure

is similar to the European average, but a major problem derives from the low level of business R&D, as well as the weak university-industry links. (The preponderance of the central region was even more striking in the area of business-related research, absorbing 80% of expenditure and 75% of employees, according to the latest statistical survey carried out for this segment in 1994).

With regard to the geographical distribution of the R&D expenditure, the share of Budapest has been decreasing only slightly since the early 1990s, stagnating around 2/3 of the total. Thus, the absorption capacity of the provincial university centres has increased modestly from 17.4 to 21.3% between 1990 and 2002. The research bases of Szeged, Pecs, Debrecen and Miskolc offer favourable circumstances for the creation of innovation centres satisfying regional needs. Universities and R&D institutes are, due to their integration into the national and international knowledge pools and scientific networks, potential knowledge sources for companies located in their vicinity. However, they are generally less integrated into their respective regions, since they have mainly national and international cooperative partners, and it is also argued that science-led initiatives promoting network-building are rarely successful. Recent surveys show the impact of universities on firms' innovation activity, which is more limited than generally assumed by many of the regional concepts (Koschatzky and Sternberg 2000). Obviously small firms cooperate to a lesser extent with universities, but if they do so, they mainly interact with universities and research institutes located geographically closer. On the other hand, universities act according to their own rules, which are difficult to adjust to the goals of business actors. Universities and firms follow their own different logic to express their cultural and structural obstacles, often making interaction difficult. Co-operation between the two sectors is intermittent, and any such cooperation usually serves to improve the financial situation of the universities rather than the development of the innovation chain. Universities still

have a stronger focus on teaching and basic research than on applied research for business purposes, something which is a general barrier to knowledge transfer.

The Hungarian Academy of Sciences' performance is more decisive in the field of basic research. Its share in Hungarian research capacity in terms of the total number of R&D units is less than 10%, and within the R&D institutes slightly more than 25%. The Academy's share in the number of total R&D personnel is almost 16% (within the R&D institutes nearly 50%), and its proportion in R&D expenditures is equal to 17%. Nevertheless, the territorial breakdown of its research institutes shows a much greater concentration than noted for the universities, since 81% of its institutes (31 out of 38) are located in Budapest, strengthening spatial imbalances in research and development capacities. Therefore it can be argued that, despite the revitalization of its highly-concentrated institutional network, the Academy plays a less important role in the development of regional innovation.

A NEW TOOL FOR SPATIAL BALANCE: THE INNOVATION-ORIENTED REGIONAL POLICY

The terms of 'regional innovation' and 'innovation-oriented regional policy' are often used synonymously, although regional innovation policy represents the spatial dimension of the application-oriented research and technology policy. The main objective of the regional innovation policy is the promotion of innovation-generated demands, something that is greatly influenced by the different capacities and performance of various regional economies (Koschatzky 2003). However, each region cannot be assumed to have the same chances or starting conditions in innovation competition. There is a harmonisation conflict between spatial balance-oriented regional policy and overall efficiency of the regionally-oriented innovation policy. It has to be questioned whether a preference is to be given to the development of competitive regions, with the possible

consequence of an increase in regional disparities, or else to broad promotion of innovation in a multiplicity of regions and consequent reduction of national technological competitiveness. This conflict makes it obvious that regional innovation policy has to adjust to the broader field of structural and balance policy.

To overcome the conflicts existing between balance-oriented regional policy and growth-oriented innovation policy, the EU has launched new initiatives supporting R&D and innovation at regional level. These incorporate the new priorities in the promotion of innovation into the existing cohesion policy, the aim being to strengthen the innovation potentials of regions (particularly in the peripheral areas), and to reduce regional disparities. Despite policy progress, 85 times more is still spent on physical infrastructural projects in the EU, than on innovation. This is a more striking feature in the CEECs, where the infrastructural investments will remain of utmost importance for years, something that might have disadvantageous consequences. Expenditure on education as a share of GDP is more than 30% lower in the new member states than in the EU-15, and expenditure on R&D more than 5–6 times higher in the EU-15 than in the Visegrad Countries (Lackenbauer 2004).

There are differences in individual concepts featured in the literature, when it comes to the explanation of innovation and regional development. The new growth theory and spillover studies emphasize that a 'critical mass' of agglomeration in metropolitan areas is required to concentrate resources (proper funding, efficient research units and synergies) among institutions in R&D fields. According to the literature, large cities with 3 million inhabitants are able to provide infrastructure, highly-skilled labour, and technology and business services for efficient R&D (Varga 2002). Other interpretations (such as the network and milieu-oriented theory), emphasize the importance of development of decentralized regional innovation networks and clusters (Tödtling 1999). However, it is difficult to

decide the seemingly rhetorical question of whether a highly- or less-concentrated distribution of R&D potentials or to put it another way, the centralized or decentralized systems are more efficient. It is rather more important how economies can succeed in flexibly adjusting their spatial breakdown of innovation activities to the challenges of global technological competition. In the case of Hungary, it is obvious that the Budapest agglomeration can provide a certain critical mass of economies of scale in the concentration of R&D activities, and its predominant role can not be questioned (Table 2). Nevertheless, if preference is given to the development of competitive regions and diminishing disparities, and when the national innovation centre is unable to support the needs as regards technological change in the regions and to establish a localized technology paradigm, a shift towards the preference for regionally-oriented regional policy measures is needed (Koschatzky 2003).

We argue that the present regional structure of R&D in Hungary does not fully meet the criteria for regional competitiveness, so significant decentralization and an increase in the diffusion of innovation are needed, particularly towards the largest provincial centres. The traditional predominance of Budapest in the economy has not diminished. Indeed, it has grown considerably since the change in regime. During the transition, Hungarian growth has been agglomeration-driven. The country's very high agglomeration-elasticity of growth is embodied by the absolutely dominant role of the capital city as the centre of innovation. Budapest is characterized by good infrastructural links, massive inflows of FDI and by a great number of joint ventures which act as connections to international networks (Bachtler et al. 1999). Budapest has basically attracted service activities, including innovation services. During the transition, the capital city was not only able to retain its advantage over the rest of the country, but in fact further increased it. Budapest became a bridgehead of Hungarian innovation, which overwhelming dominance in the innovation

field is shown clearly by the main innovation indicators (Figure 3). There are several arguments concerning the predominant position Budapest holds within S&T. The key role of Budapest as the centre of innovation in economic transformation was rooted in the traditionally-centralized (path-dependent) structure of Hungarian science. It is based on its disproportionate size of agglomeration and reinforced by the lack of the autonomous and regionally embedded innovation centres outside Budapest. The geographical structure is a barrier, as innovation activities are highly concentrated: large gaps occur between Budapest and the countryside, between the Budapest-Vienna axis and the regions lagging behind, and also between the largest knowledge centres and the remaining settlements.

Conditions for change in the technology sphere are still more unfavourable in the regions outside Budapest. The changes experienced during the transition threatened the appearance of a new kind of dependence of the regions on the capital city: the 'filter' model still exists. Budapest and the central region, using advantages of their location, filter out the most valuable economic activities (research and development, financial services, higher education, the building of international market relations etc.) and diverts the traditional, less profitable branches of production towards the peripheries. According to the decentralisation-oriented regional policy, as discussed by Horváth (2003), the Hungarian regions will only be able to modernize their structures, increase numbers in employment and improve the situation as regards income by strengthening their economic independence. Others argue, that 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 process of catching up (Lackebauer 2004). It is all the more true, since we can find a strong correlation between the structural changes that have occurred and a single metropolitan concentration of

R&D. The renewal of the Hungarian spatial structure during the transition period was not bound up with the characteristics of R&D and higher education. These factors, outside Budapest, did not determine the selection of entrepreneurial locations for foreign direct investment and did not play a very important role in the structural change until recently. Nevertheless, strict separation and conflict between the growth- and balance-oriented policies quite often defuses itself, since each region should pursue a growth-oriented strategy which also takes endogenous potentials and structural targets into account. Despite some negative experiences, a skilful combination of these policies 'reduces the cost of innovation or increases the diffusion of innovation, reduces regional income inequality, agglomeration and increases the national growth rate' (Lackebauer 2004). If this development target is to be achieved, it is not only a certain decentralization that is needed, but also a stronger distribution of innovation potential within the country.

The dominance of the capital city must be reduced in the medium term. It is certainly true, on the one hand, that the qualitative transformation of the R&D sector in Budapest could strengthen the international position thereof. On the other hand, however, the interests of Hungary require that new developments be implemented primarily in the regional centres of innovation, i.e. the university cities of Szeged, Debrecen, Pécs, Miskolc and Veszprém. These five cities account for approximately another 20–25 % of all R&D employees and almost a quarter of the expenditure (Horváth 2003). Research bases that have to be established offer favourable circumstances for the creation of regional knowledge centres responsible for the harmonization of R&D activity and the development needs of local industry.

As regards the regional distribution of innovation activities, a spatial contradiction exists. The North-west Hungary is characterized by a high level of industrial production, GDP per capita and business-oriented

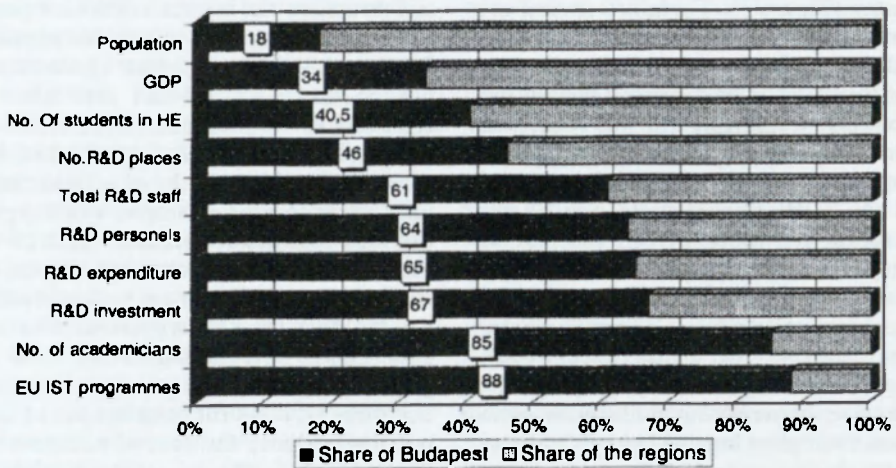


Figure 3. Share taken by Budapest in selected research and development indicators, 2000.

Source: Edited by the author.

innovation, but at the same time university-based R&D activities are rather weak. Its basic R&D indicators are not only below the national average, but they are shallow even in comparison with the less-developed eastern regions (Dóry 2000). Paradoxically, West Transdanubian region, while in the vanguard of economic development through the attraction of FDI, has weaker than expected R&D performance (especially in terms of input indicators) and institutional framework for research (lack of traditional universities). Although it is true that the strong FDI presence has not been accompanied by statistically-significant R&D activities in North-west Hungary, the industrial and innovative traditions, the concentration of multinationals into the high-technology sectors (especially the automotive industry) and the formation of one of the first high-tech clusters in Hungary (Pannon Automotive Cluster) have increased the innovation potential of the region. Local initiatives with governmental support have expanded the region's higher educational capacity in recent years, with a view to its catching up in the

field of research and prospering cooperation with industry (Grosz 2003).

The development of indigenous innovation capacities has to be enhanced, by involving enterprises, R&D institutions and regional authorities in an effort to develop regional innovation networks that contribute to the competitiveness of the Hungarian regions (Günther 2002). Most European surveys have concluded that promotion of innovation by both the private and public sectors, in the less-developed regions (particularly in the accession countries) has been inadequate to meet their economic demand and poor in terms of the adaptation to specific regional needs and conditions, something which contributes to the widening developmental gaps between regions. The practical way to handle this problem in the less-developed regions is to develop regional innovation strategies which aim at promoting public-private partnerships and initiate cooperative linkages. In the developed regions where there is FDI, the lack of higher education makes technology transfer difficult, even if foreign companies were given access to innovation

(Lackenbauer 2004). In regions lagging behind, the lack of FDI-promoted development requires that an endogenous approach to regional innovation policy be taken, in which endogenous capacities have to be enhanced so that technological disparities between multinationals and indigenous SMEs might be reduced.

CONCLUSION

Innovation is crucial to the integration and modernization process in Hungary. One of the biggest systemic failures of the transformation economies of East Central Europe was the mismatch between the different components of the innovation system, resulting in a rapid decline in government support and industrial research during the transition period. The failure of the centrally-planned model of innovation had been dissolved and the economic environment during the transition did not favour the structural re-organization of the system. The modernization of the NIS has created a good framework for the development of cooperation between the different spheres of innovation, but still fails to handle the problems of regional inequalities. While during the transition, spatial development was largely determined by FDI in manufacturing, in the post-transition period this main factor was augmented by new directions in innovation as an important factor differentiating economic space. The future success of Hungary depends greatly on regionally-based, knowledge-oriented economies, perhaps the most promising way to achieve modernization and catch up. The preconditions for the creation of this are to a large extent jeopardized by the shallower innovation potential of the Hungarian regions outside Budapest, resulting in large geographical differences. Development of regional innovation policy will be of decisive importance in the modernization of the spatial structure of Hungary, the improvement of regional competitiveness and the fostering of re-industrialization. The construction of a regional institutional system capable

of developing the technological level of the regions is a prerequisite for integration into the globally- and regionally-organized knowledge economy.

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THE POVERTY PROBLEM IN RURAL ROMANIA

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Abstract: A serious poverty problem arises from the fall in salaried employment combined with low wages and an inadequate social security system. But the situation is particularly difficult in rural areas because the commuting workforce was laid-off disproportionately and while land restitution has provided smallholdings for most rural dwellers, coping strategies that focus quite narrowly on subsistence farming are unable to generate capital to launch new businesses. Since foreign investment goes almost entirely to the larger towns, rural development is heavily dependent on programmes to improve infrastructure and encourage diversification. Although there are sharp regional contrasts, considerable progress has been made in identifying the problem areas.

Key words: land restitution, poverty, Romania, rural areas, smallholdings, social security, subsistence farming, unemployment

INTRODUCTION

According to the United Nations Development Programme (UNDP 2005), Romania is one of the poorer countries of Europe occupying the 64th position in human development in 2004 which means that it is one of 87 states with 'medium human development' and falls just below the 57 states with high human development which includes most European countries. However Romania's human development index of 0.79 in 2003 is an improvement over the 0.77 level maintained during the 1990s. At the same time there are substantial inequalities which mean that poverty is a very serious problem in Romania, as it is in the other transition states (especially those in South Eastern Europe and the Confederation of Independent States) (Milanovic 1996). A poverty level indicted by 20–30% of

the population subsisting on less than \$4.0 daily places Romania on the same level as Bulgaria, Latvia and Ukraine, though much better than the Russian Federation (53%) and Moldova (82%) while no data is available for the five West Balkan states. The problem lies essentially in a difficult transition from central planning—given Romania's vulnerability to the shock of opening up to a global market economy—which complicates the building of a fully inclusive society (Kligman 1990). Salaried employment declined each year from 8.00 million in 1989 to 4.62 million in 2000—a loss of a quarter of the total jobs even allowing for the increase in the number of entrepreneurs and self-employed people with a slight recovery to 4.65 in 2003. Meanwhile the unemployment rate increased progressively from 6.0% in 1997 to 7.1% in 2000 and 8.4% in 2002 before falling back slightly

to 7.0% in 2003. Adult equivalent consumption fell by a fifth during 1995–2000—though the poorer income distribution quartiles were hit relatively less and inequality therefore decreased (Teşliuc, C. et al. 2003)—in addition to the economic cost through the rising share of GNP needed to support the unemployed and provide retraining in line with changes in industrial structure and technology. But unemployment figures understate the problem since they do not include people who have not registered and those who leave the register after receiving social assistance (usually for a maximum of 12 months). Furthermore, the fact that millions of country people are tied to small restitution holdings means that a very large population is nominally employed but restricted to a very low income that can easily fall below the poverty line. The paper reviews the poverty problem with particular reference to the rural component arising from the resurgence of small-scale subsistence farming. It goes on to review remedial actions in the form of social assistance, agricultural restructuring and rural and regional development policies for job creation: indeed all the principal ‘axes’ of the 2000–2006 development plan cumulatively address the poverty problem through focus on policies for social security, economic restructuring, regional development and rural areas (ANDR 2000a; 2000b). The paper also refers to the overlapping activities of various agencies, including national and local government, the European Union (EU), UNDP, World Bank and NGOs such as the Centre for Economic Development but does not seek to assess the cohesion between them.

RESEARCHING POVERTY

Poverty was not adequately recognized under communism although the wide availability of salaried employment and the support provided through cooperative farming system contained the problem, along with President Ceauşescu’s superficial advice on ‘rational eating’ and the wearing of additional clothing to cope with inadequate winter heating. It should be stressed at the outset that poverty was not conceived merely as a problem with nutrition, although it affects 35% of the

poor—particularly in urban areas: indeed it also affects 14% of the non-poor, although of course these people have the choice as to whether or not they fall below the minimum caloric intake! Rather, poverty was revealed through household durables and facilities, with much higher levels of availability among the non-poor. For example, over 70% of the poor lack access a bathroom: a situation common enough in rural areas, but not in the towns where—as with flush toilets and hot water—deprivation usually arises through inability to pay and consequent disconnection from communal schemes. On this basis, the start of the transition saw research on social issues based at the Romanian Academy’s newly-established Quality of Life Institute <<http://www.iccv.ro>> where poverty quickly emerged as a major concern (Puwak 1992). Research was also undertaken directly by the government after 1996, through a unit operating in the prime minister’s office, which since the election in 2000 has grown into a Commission for Poverty Alleviation & Promotion of Social Inclusion (CPAPSI) <<http://www.cpapsi.ro>>. There has also been momentum from external stimuli, notably the Council of Europe that decided in 2000 to encourage member states to formulate anti-poverty and social inclusion strategies in 2001. Romania approved such a strategy in 2002; involving county commissions that were set up to produce plans for the short term (2002–4) and the medium term (2004–8) with the help of specialists in sociology as indicated by the CASPIS website; while baseline assessments are also needed to guide the programme of international agencies already referred to.

In continuing consultation with the World Bank, CPAPSI perfected the methodology for identifying poverty which is now based on an absolute threshold: a food basket representing the ‘minimum food products’—2,550 calories per day for adults, costing 0.87 million lei in December 2002—calculated on the basis of an ‘alimentary baseline’ reflecting the nutritional patterns of quintiles two and three of the population (who actually consumed 2,610 calories per capita in 2002), with non-food items and services added. Extreme poverty is calculated

by adding the food component of the poverty line to non-food consumption and services typical for people who consume the basic caloric intake, i.e. necessities that people would still need to secure—even at the cost of reducing caloric intake below the poverty line: this was established at a cost of 1.06 million lei in December 2002 (whereas the standard poverty line allows a broader definition of non-food necessities to bring out a total cost of 1.54 million lei in December 2002). The present method allows for comparability through time and space; it also includes a system of adult equivalents to take care of children and allows for economies of scale in large families. According to this method the poverty headcount increased from 25.4% in 1995 to 35.9% in 2000 and then with the return of economic growth it fell back to 30.6% in 2001, 28.9% in 2002 and 25.1% in 2003. However the total headcount masks major differences between urban and rural areas and the rural rate in 2002 was 42.4%, more than double the urban rate of 17.6%.

WHO ARE THE POOR?

It is conventional to stress the problem of the high unemployment although this is much too simple, despite its obvious validity in urban areas (Metz 2003). Many people with regular incomes suffer poverty. 14.6% of the poor are employees in work (43.9% for the non-poor) at the start of the millennium. There are some three million salaried workers on low incomes—for skilled-unskilled differentials have increased—highlighting the importance of education in escaping from poverty. 12.3% of the poor are pensioners (though they comprise a higher percentage of the non-poor: 18.2%). Many of them obtain small incomes from agriculture: hence the over-65s (overwhelmingly low-skilled) comprised 8.2% of employed population in 1996 but 10% in 2001. 10.4% of the poor are students (11.8%) (Ibid p.88). There are also thought to be more poor women than men. This reflects the problem of single mothers although statistical coverage is inadequate on this point. Finally, the highest risk of poverty is among children especially the 15–24 group: ‘this has partly

to do with the high dependency rate among this group and partly to do with the fact that poor parents have more children’ (Ibid p. 11). Family size is important because two thirds of families with six or more members are poor, including some families of skilled workers and intellectuals (although poverty is more deep-seated in large families headed by farmers and unemployed people). Consideration of children should not overlook an estimated 1,500 street children in 2003 (400 in Bucharest) and 43,000 children in public/private placement in 2002 (some of whom have to remain institutionalized after reaching the age of 18 because they have nowhere to go and local authorities have no money to support them). As regards the regional pattern in 1995–7 the North East was the worst affected with 25.0% of the poverty headcount which is 1.46 times the population share; followed by 1.16 in the South, 1.14 in the South East, 1.12 in the South West, 0.85 in the Centre, 0.79 in the North West, 0.77 in the West and 0.40 in Bucharest-Ilfov.

Crucially however, many country people are underemployed on small restitution holdings. 45% of unemployed adults are poor but so are 56% of self-employed adults in agriculture (Metz et al. 2003 p. ii). Put another way 29.0% of the poor are self-employed in agriculture compared with 8.8% for the non-poor (5.05% compared with 2.76 for the non-agricultural self-employed and 10.7% compared with 6.3 for housewives). Again, poor households supply more unskilled workers occupied in agriculture and construction while non-poor households are relatively more prominent in white-collar jobs in state (civil service) employment—reflecting higher levels of education and skill (Chirca and Teșliuc 1999: 34). Employment in agriculture (with forestry and fishing) went up from 34.4 to 41.4% during 1995–2001 while shares fell for both industry (28.6 to 23.2%) and services (37.0 to 35.4%)—a very disappointing trend when the normal outcome of structural reform is a redeployment to non-agricultural jobs (although there has been positive change since 2000, for in 2003 the percentages were 35.7 for agriculture, 25.2

for industry and 39.1 for services). This has produced a situation where the gap between agriculture's employment and GDP shares widened dramatically (Guran-Nica and Roznovietchi 2002). In 1989, agriculture accounted for 7.5% of salaries, 11.3% of national income but 16.8% of investments and 27.5% of the occupied workforce. But in 2000 agriculture accounted for 7.5% of investment, 12.0% of GDP, 16.3% of fixed assets and 45.2% of employment. Indeed the roles of agriculture and industry-construction have been reversed almost exactly since the latter accounted for 45.1% of employment in 1989 but 27.3% in 2000 (with total employment falling absolutely from 10.95 million in 1989 to 8.63 million in 2000). But while employment in agriculture has increased relatively—and absolutely from 3.01 to 3.52 million—production actually declined, for livestock comprised 15.8 million units in 1989 (reckoning each head of cattle, pigs, sheep/goats and poultry at 0.84, 0.20, 0.14 and 0.04 units respectively) but only 7.54 in 2000. This amounted to 5.24 livestock units per agricultural worker in 1989 and 2.14 in 2000. In view of the high level of underemployment in agriculture it interesting to note that there is almost exactly a 50:50 split nationally between (a) agricultural workers and the unemployed and (b) those engaged in the secondary and tertiary sectors i.e. between the broadly underemployed (with very few salaries) and the fully active and salaried population. In European statistics for 2001–2 Romania has a unique profile with the highest level of employment in agriculture (approached only some regions of Greece and eastern Poland) while unemployment levels are on a par with Czech Republic, Hungary and much of Western Europe. Meanwhile a low per capita GDP below €8,000PPS (and disposable income of below €5,000PPCS) links Romania with Bulgaria and the Baltic States (Eurostat 2004, pp. 38–61).

THE RURAL PROBLEM

The problem that is central to this paper is a historic one arising from the large number

of peasant farmers with a primary interest in subsistence, along with predominantly informal activities (Golibrzuch 2002; Stănculescu 2002; Stănculescu and Ilie 2001) which means that much of the land cannot be used for commercial agriculture. The communist era engineered a decisive shift but could not complete the job (Kideckel 1982). A rural revolution was envisaged by Ceaușescu's 'sistemizare' programme for the 1990s but there has now been a relapse through the decline of salaried employment in other sectors. Peasant farming has always involved pluriactivity, but whereas the typical country dweller previously commuted daily to salaried non-agricultural employment and worked a plot as a spare-time occupation, the restituted holding now becomes the main job out of necessity. This will continue to be the case until further reorganization of agriculture on the basis of improved social security for older farmers and alternative employment for younger people who currently see farming as the 'employer of last resort'. This in turn will require a much improved rural infrastructure and greater spending power, as discussed in the second half of the paper.

Millions of country people are tied to small restitution holdings sustaining very low incomes that can easily fall below the poverty line (Cartwright 2001; Kideckel 1993). In 2003 51.3% of the 3.56 million people occupied in agriculture (all but 0.27 million in rural areas) were self-employed while 42.0% were contributing family workers with 6.1% employees, 0.5% cooperative workers and 0.1% employers (Dumitru et al. 2004). Agriculture accounted for 37.8% of the working population but only 3.0% of salaries. Spontaneous privatization after 1989 meant that legislators in 1991 'had no option but to issue a land law that sanctioned the earlier spontaneous repossession' and dissolve cooperatives *de jure* (Chirca and Teșliuc 1999: 37; Negrescu 1999). Hence 'by design' the restitution created a rural class of elderly landowners because most of the heirs who inherited their parents' former land were now urban dwellers, for the rural population declined from 12.16 million

(76.6%) in 1948 to 10.60 million (45.7%) in 1990 and 10.26 (47.3%) in 2002. 'Young and middle-aged rural households who depend on land for their living and who will have to make up the core of the future farmer population lost out in the distribution of land in the wake of de-collectivization' (Ibid: 38). Moreover, a ban on land transactions after the revolution effectively blocked access to land for younger farmers for almost seven years: so, 'with a sticky land sales market and insecure land leasing arrangements it is very difficult to match the surplus land they [the principal restitution beneficiaries] own and the surplus labour of the younger farmers' (Ibid: 33) other than through land associations which are most common in low-land areas specializing in arable farming. Land leasing was made lawful in 1994 but the provisions were considered insecure for the leaseholder: hence informal sharecropping was often preferable, albeit without legal protection. Thus most farmers became locked into a regime of agricultural work with insufficient land and livestock as well as inadequate equipment that made them dependent on the now-privatized machine stations or 'Agromecs'. In 2000 there were 4.26 million individual farms with an average area of 2.36 ha and a total landholding of 10.05 million ha while some 4,370 associations farmed 2.24 million ha with an average of 512 ha each. This shows some deterioration from 1993 because while the average individual holding was smaller (2.14 ha) there were fewer individual farms (3.42 million, working 7.33 million ha) because many more families were participating in associations: 18,030 such organizations then worked 3.67 million ha—an average of 190 ha (Dumitru et al. 2004). Poverty was hardly alleviated by depressed markets for agricultural commodities since (prior to 1997) fixed prices for meat, milk and wheat took private competitors out of the basic commodity and storage markets. Since then the situation has improved but small producers are still at a disadvantage because in 2001 it was decided that only commercial farms would benefit from government aid for agriculture.

So many rural inhabitants who formerly commuted to salaried work now find themselves largely excluded from the salaried labour market and 'pushed into less onerous activities in farming, non-agricultural self-employment or unemployment' (Teşliuc et al. 2003: 137). Given the prominence of the self-employed and unpaid family workers, formal employment in rural areas accounts for only 26% of working people, compared with 90% in urban areas (Metz et al. 2003: 2). Currently a third of rural income comes from informal earnings—from small-scale agriculture (though much food may be given away e.g. to children who may be students), land leasing and agricultural seasonal work (enabling itinerant teams of landless labourers to go home with produce)—compared with less than 20% in urban areas. Thus Chirca and Teşliuc (1999, p. 30) assert that 'those who work as sole entrepreneurs in the rural area are cursed to be poor': agriculture is not a source of prosperity and it is not seen as a source of economic growth. Underemployment on small farms also affects many people of pensionable age: indeed 90% of the employed elderly live in rural areas where they make up 18% of all rural employment; while Manoneli et al. (2004) calculate that the over 55s account for 30% of all rural agricultural workers (0.60 million from a study of 2.02 million). As noted above for 2002, with 42.4% of rural people poor but only 17.6% for the urban sector, 68% of the nation's poor then lived in rural areas: a deteriorating situation because despite some absolute decline in poverty levels since 2000, the urban areas have gained from economic growth, while the rural poor have been largely excluded. Indeed the labour shakeout from state enterprise continues 'people are still moving towards occupational categories with increasing poverty'—especially agriculture (Gatti 2003: 73). In regional terms rural poverty is quite evenly spread by comparison with the total headcount, but the North East has more than its 'fair share' with a ratio of 1.17 times the total rural population share, followed by the South East (1.12) and the Centre (1.01). The other regions are below

parity but by small margins: South West (0.95), West (0.92), South (0.90), North West (0.89) and Bucharest-Ilfov (0.88). The unfavourable position of the North East arises from the fact that rural employment is overwhelmingly agricultural with 84.0% in Botoşani and 80.2% in Vaslui compared with the national average of 69.0% (Sandu 2003). At the other extreme a group of counties (Arad, Covasna and Mureş have only 31–32% in agriculture followed by Braşov with 20.8%, Prahova with 12.4% and Ilfov with only 8.7%. Although it might be supposed that poverty would indicate extremely high levels of intensification on small farms to generate the surpluses that would generate higher incomes this option is restricted by the shortage of land and therefore fodder, given that farm efficiency and the market stimulus is not sufficient to justify the purchase of inputs.

ADDRESSING THE RURAL POVERTY PROBLEM

Social policies are clearly needed to provide welfare and some 10% of GDP was redistributed through social protection during 1995–2002 with the highest levels in 1998 (10.5%) and 1999 (10.8%) (Teşliuc, C. et al. 2001), although the burden has been progressively decentralized with the share of local budget finance rising from 16% in 1995 to 31% in 2002. Unemployment benefit—administered by the National Agency of Employment—was rationalized through new legislation in 2002 on the basis of 75% of the gross minimum wage for 6–12 months depending on length of service (i.e. the social security payments made). Graduate allowance for vocational integration—i.e. for graduates without jobs and those completing military service who cannot get jobs—amounts to 50% of the minimum wage payable for six months. Severance payment (which provide significant capital resources in the case of state-owned enterprises) has been reconsidered under a 2003 agreement between government and the un-

ions: it now stands at 20–24 average monthly wages plus two at the time of dismissal, plus micro-credit programmes in mining areas. Reference should also be made to the programme of social aid conceived in 1995 and administered by local authorities to provide modest assistance in return for community work. It was complemented by a broader National Poverty Alleviation Strategy launched in 1998 with the help of the UNDP under a cooperation agreement of 1997–9 for poverty alleviation and sustainable development which addresses the problems of poor infrastructure in rural areas (see below). And the scheme was relaunched in 2002 through the allocation of 0.4% of GDP to fight poverty through minimum income guarantee. However because of the role of local authorities, many of which are poorly resourced, people in rural areas do not always get their fair share. Reference should also be made to heating allowances for low income families as well as pensions and family allowances, although the rates are low.

DEVELOPMENT OF AGRICULTURE

The neglect of rural areas evident under communism continued into the 1990s for although land restitution greatly increased the area of land in private hands beyond the 15% level in 1989, there was delay in the issue of legal titles (one third of owners were still without them in 1997) and the development of a land market was frustrated. The state continued to control most of the infrastructure (inputs and marketing) while intervention to boost the food supply favoured only the state farms with an average of 19.2% of budgetary expenditure during 1992–6. Indeed Spiridion (2005) suggests that the continued inefficiency of state-managed agriculture made life difficult in the towns and forced the poorer elements to return to countryside which saw a positive migration balance towards the end of the decade (Rotariu and Mezei 1999). But this overlooks the economic downturn that brought higher unemployment and the rise in migration abroad (Grigoraş 2001; Sandu 2000). Aid was reduced in 1997 but with a wider distribution while price controls were removed and private

sector involvement increased. Meanwhile the state sector has been restructured through land concessions to private businesses while some farms have been liquidated and 110 remain to be disposed of. But crucially in 2001 it was decided that only commercial farms would benefit from state support so that the millions of semi-subsistence farms were effectively been cast adrift in the run-up to EU accession (Davidova & Thompson 2003). The government is now concerned essentially with 169,300 viable farms : 47,800 for arable, 30,300 for livestock and 91,000 for mixed farming (leaving some 200 for fish farming). 743 are over 1,000ha, of which 142 are larger than 5,000 ha (Dumitru et al. 2004).

The state has taken a strong lead through a National Plan for Agriculture & Rural Development (NPARD) which brings together the ministries concerned with rural development, while multidisciplinary research on rural problems—triggered by the PHARE-sponsored Rural Development Project (Guvernul României și Comisia Europeană 1997)—gave rise to a plan for an integrated and dynamic rural economy, based on the development of agriculture and agricultural services, along with the rationalization of holdings on the basis of pluriactivity; improved living conditions and infrastructure; conservation of culture and patrimony through appropriate modernization of villages; demographic reinvigoration with skills training and stimulation of business; and environmental protection through re-forestation, water management and more sustainable agriculture (Government of Romania & Ministry of Agriculture 1999). Farming has been aided externally by the Agriculture Sector Adjustment Loan—one of a series of World Bank Programmatic Adjustment Loans to support accelerated reform—and even more substantially through the targets for the EU's 2002–6 Special Accession Programme for Agriculture & Rural Development (SAPARD), based on the work of an inter-ministerial committee (Guvernul României 2000). During 2003 grants were made in support of co-funded projects in Category One which seeks im-

proved processing and marketing: involving new buildings; treatment and recycling; use of by-products; and monitoring and control systems. Funds are being allocated to milk and dairy products (25%); meat, meat products and eggs (23%); vegetables, fruit and potatoes (17%); cereals (13%); wine (9%); fish (6%); sugar (4%) and oilseeds (3%). So the bulk of the funding has gone to firms based in the towns (see below). Meanwhile there has been much funding under Category Two which covers rural infrastructure (examined below), with funding divided between roads, water and sewerage: reflecting the EU CAP emphasis on rural development through 'second pillar' measures. And with the necessary administrative capacity available, investment started in 2004 in Category Three covering agricultural holdings: equipment for the modernization of holdings (tractors, harvesters, irrigation); rehabilitation of orchards and vineyards (replacing old vines and hybrids by noble varieties on existing surfaces without increasing total area); modernizing and extending buildings (with water, electricity and drainage); modernizing greenhouses and installing new ones; acquiring pedigree stock and improving buildings e.g. milking halls.

This will help agriculture as a whole to secure stronger market-orientation and more value-added through food processing which is burdened by obsolete technology and surplus capacity. Increased productivity on small farms also depends on reduced fragmentation, improved agricultural extension, better marketing and associations, a better environment for land transactions and the enforcement of business contracts (Mete et al. 2003 p.v) which can all make for a more efficient business. Despite low labour costs only parts of the agricultural sector are competitive—wheat and sunflowers, and possibly maize and pork—in contrast to beef, chicken, milk products and sugar beet suffering badly from imports. There is obviously a case for efficiency and high yields in lowland areas where some foreign investment arises from European agribusiness backed by modern refrigerated transport. Genagricola (part of

the Italian Generali Group) has purchased 20,000 ha in the Timișoara area and intends to buy several thousand hectares for vineyards in Caraș-Severin. Spanish interests are active in Banat in sunflowers and the oil extraction business. Romanians are also well organized, as in the case of the highly mechanized Curtici farm association near Arad which covers 2,500 landowners and 5,000 ha.

RESTRUCTURING SMALL FARMS

But it is now widely believed that intervention is necessary to encourage transfer to non-agricultural employment where their marginal productivity is zero or near-zero and therefore help to address 'the vicious circle of subsistence farming' (Chirca and Teșliuc 1999: 42). A model based on 20–40ha family farms with capital-intensive production technologies could mean potential unemployment for 2.5 million people over five to ten years. Following the clear lead in 2001 in respect of commercial farms, it has been argued strongly that steps must be taken to encourage restructuring among small farms so that older farmers retire and in order to provide small family holdings for younger farmers (Râmniceanu 2004). This approach has been operationalized in detail by Manoleli et al (2004) who propose—over a period of five years—to take 2.0 ha from each of 0.60 million farmers over 55 years of age in order to make 120,000 ha available for consolidation into 10 ha holdings for young farmers, with some 25,000 ha re-allocated each year. The cost would arise largely through enhanced pension payments to the elderly and would gradually rise from €169.1 million in the first year and 846.5 in the fifth. The owners would need to be won over by careful persuasion bearing in mind that land is a 'symbol of freedom and independence' while poor market prices for land (away from the rural-urban fringe) encourage owners to hold on to their land even if they do not cultivate it. The plan was worked out on a regional basis to give more attention to communities in counties like Bacău and Botoșani where there are three to four people employed in agriculture per 10ha whereas at the other extreme in counties like Brașov and Prahova each person works 20–30ha on average.

Arguably there may be an alternative because pluriactivity is now appreciated as 'a consciously constructed nexus that allows on the one hand the continuation of farming and on the other hand makes for the reproduction of other economic activities that would be impossible if they had to be grounded on stable and full-time employment relations' (Van Der Ploeg and De Rooij 2000: 46). There is scope for eco-farming given demand in the EU and also potential for rural tourism (given the country's biodiversity resources and a good range of locally-produced food); while 2.5 million ha of degraded land—with 7 million ha susceptible to erosion—provide opportunities in afforestation. Indeed, it is thought likely that in the EU member states pluriactivity will become more important, making heterogeneity intrinsic to rurality. It may therefore be a mistake to regard the agricultural sectors of ECE inevitably as 'the new hinterlands of Western European agribusiness' (Ibid: 52) and one approach to the poverty problem may involve rural diversification including sustainable tourism. The Ministry of Agriculture provides help through some 540 advice centres which supply information on harvesting prospects and marketing; help plans for farm modernization and the extension of pluriactivity into local industry and food processing; and provide limited credit to meet the costs of ploughing, seeds, chemicals and machinery. There are good prospects for fruit growing on the basis of local associations like the one started at Căndești (Dâmbovița) in 2001: it has 300 members across the Dâmbovița fruit-growing region (and beyond) and links with Voinești research station and the national association of fruit growers as well as local agricultural advisors (Mihai 2001).

RURAL POLICY: OVERCOMING COMMUNITY POVERTY

Development of agriculture must clearly be complemented by widespread diversification of employment, which in turn requires that the barriers standing in the way of rural de-

velopment must be addressed: lack of capital (linked with high unemployment and poor agricultural markets) as well as inadequate information, plus a lack of transparency in local government and trust in public institutions—including managers of agricultural associations, for few existing/potential businesses think the official agricultural advisory service would be an appropriate organization to support them. But there other fundamental issues concerning education and health, transport and water supply that give rise to problems of community poverty which is a quite different concept from consumption poverty and can be approached in a variety of ways as indicated by the papers of D. Sandu (1998, 1999, 2001; Sandu et al. 2000).

For three-quarters of the rural population education has been limited to the maximum level of compulsory provision (while a third attended only primary level schools and 7.4% have had no formal education at all). While rural areas account for 46% of the school-age population, the share is only six percent for secondary school students and one percent for graduates of higher education. Meanwhile agricultural education is very poorly developed in relation to its economic importance: all this is seen as one cause for the lack of economic diversification and agricultural efficiency. There was a higher level of non-attendance at school in rural areas in 1995: 8.2% of 7–17 years olds compared with 5.7% in the towns. And achievement levels were lower because in 2000 only 36% of rural students taking their 'capacitate' examination at the end of compulsory education scored 'very good' in their native language test compared with 71% in the towns. There are also social projects for specific deprived groups such as the Roma who are assisted by various initiatives including a contribution from UNDP for Roma social support centres: a pilot in Mărașești has been followed by centres in Botoșani and Galați counties 2005 with three more to follow in 2006 (Anastasoae & Tarnovschi 2001). The UNDP is also assisting over empowerment for rural women.

In many other respects the rural areas are at a disadvantage. There is poor do-

mestic hygiene which aggravates mortality. In most communes only primary sanitary/medical services are available and quality is reduced by the poor condition of buildings and the inadequacy or non-existence of the equipment. Furthermore resources are limited to curative action: preventive and proactive campaigns are limited to vaccination programmes and some mother and child services (there is little promotion around the theme of water and sanitation). Availability of piped water and sewerage is relatively poor: in 1992, 81.8% of rural dwellings had kitchens but only 11.4% had a piped water supply, while a tenth had sewage, eight percent had a bathroom, six percent a flush toilet and 4.4% had central heating. The better conditions were more evident among 'gated communities' on the edge of large towns where migration controls were in force before 1989. Water quality is also a consideration for while widespread occurrence of shallow (15–30 m) and reliable aquifers facilitates a water supply for many individual households, it is one that is often unacceptably polluted through nitrate contamination and bacteria linked with livestock and household pit-latrines; causing high mortality among the under fives.

Transport is often difficult because few local roads have a bitumen surface: unmodernized roads provide poor riding quality through the use of extremely coarse gravel while earth roads are almost always in a poor condition and are often impassable during the rainy season. Poor roads hinder villagers taking goods to market or visiting social and health services; prevent some secondary school students commuting daily; impede access for the emergency services; and increase operating costs for vehicle owners whose trucks are 'destroyed' by bad roads. Finally, the rural communes are also marginalized by the slow pace of fiscal decentralization; whereas the town councils gained considerably in 1998 through control over their own revenue collection. The local budget process constrains commune capacity building because they are heavily dependent on transfers from the state budget

and a third to half of each current year will usually elapse before revenue or expenditure responsibilities are fully known. Thus the communes adopt a largely passive stance and there is no established culture of citizen participation in local government, especially in rural areas.

There are vast differences between individual villages since poverty shows a bias towards small settlements that also have few non-agricultural work opportunities. Infant mortality is higher in small villages with low human capital and remoteness from commune centres. And piped water is particularly limited in small villages—with implications for their sanitary condition, including the handling of milk in good conditions of food security. Stănculescu et al. (2004) highlight the plight of 1,303 small isolated villages lying more than 32kms from the nearest town. They have a total population of 260,000 and a relatively high incidence of individual consumption poverty, with progressively lower levels of poverty in other small villages that are closer to the towns and the larger villages, especially those that act as commune centres. Large villages tend to have three times more salaries (per unit of population) than small villages and they have also seen an improvement in business and services since 1989, based on 'a renaissance of individual initiative' (von Hirschhausen 1998: 261). However, when the situation was generalized on a commune basis by the Romanian Social Development Fund (RSDF, see below) with a prime focus on distance, mountain communities were usually poorer than their lowland counterparts. But the situation was reversed when housing quality was ignored since houses built of 'chirpici' (mud applied to wooden trelliswork) are prominent in the lowlands and tend to correlate with poor hygiene and high infant mortality, especially when the number of rooms is small.

Hence, it is usual to calculate indexes using several criteria including household consumption, migration and fertility indicators and accessibility that seem to correlate with population, employment and community education stock. Figure 1 combines

two surveys of community poverty. The first is based on Chirca and Teşliuc (1999: 133–42) and reflects World Bank criteria with respect to communal services, accessibility and demography. By using scoring systems it is possible to put communes in rank order and locate the bottom 20% of communes: the poorest 10% with scores between 21.8 and 29.6 and the next 10% with scores ranging from 19.2 to 21.9. A second study by Lazaroiu et al. (1999) takes a more limited range of factors: demographic dependence (young and old in relation to the active population); the level of concentration (indicated by the size of the largest village compared with the others); education stock; employment in agriculture; birth rate; emigration and temporary absences. 137 communes are identified as the poorest with another 227 'at risk' while at the other extreme 203 are 'most developed' and 206 have 'high development potential': the remaining 1,914 are average. The two exercises show considerable correlation while the problem areas in the North East and South East are emphasized. The first source also considers urban poverty with respect to four criteria—development, infrastructure, human capital and demography—and finds the regional distribution much less uneven, although the number of towns which fall into the bottom quintile in respect of at least two of the four criteria number 57 of which 43 are in the South East, South, South West and West. These figures also reveal a sharp urban-rural contrast in community poverty within the North East.

RURAL ROADS

Particularly since 1996 great efforts have been made to improve rural roads and water supplies as well as education and medical services. Work has been planned by the state with the help of foreign loans (Drogeanu 2000) but there is also a major contribution from the UNDP and World Bank. There are also funds that attract applications on a competitive basis. The RSDF (noted above) was set up in June 1998 to make grants to relieve poverty by stimulat-

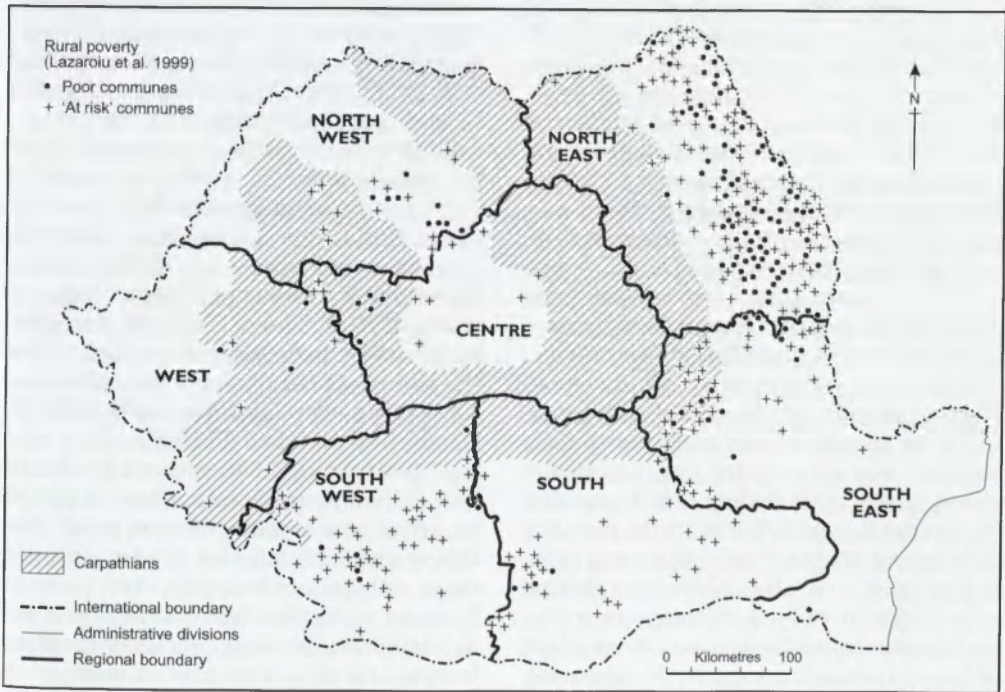
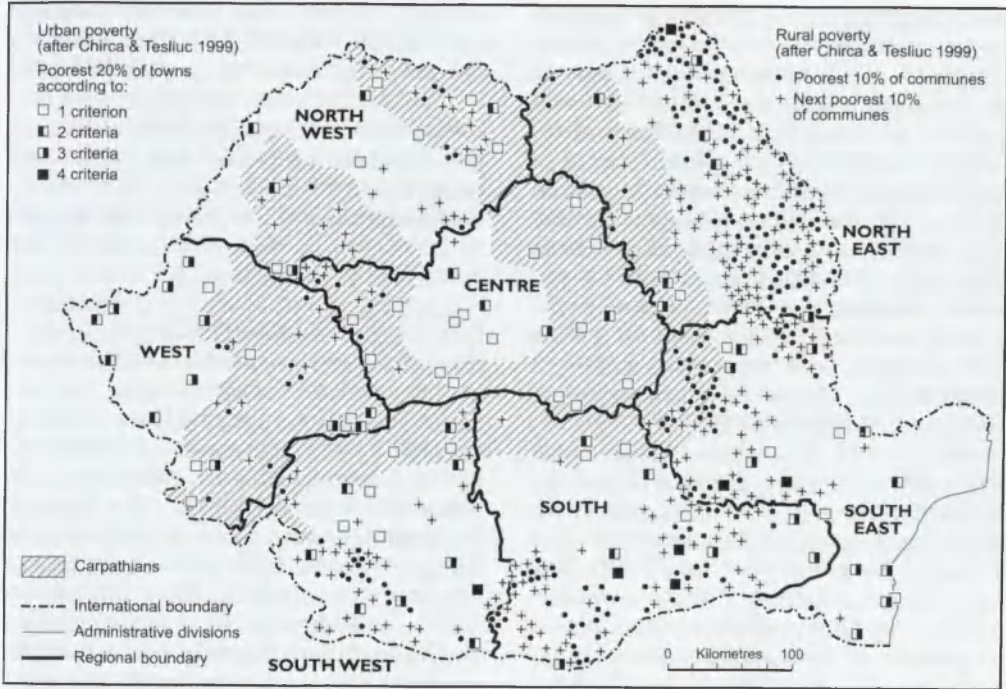


Figure 1. Two surveys of community poverty.

ing participation and cooperation within communities to improve living conditions for people in disadvantaged categories in poor villages; also to develop initiative and capacity in connection with decentralization (Stanculescu et al. 2000). There is provision for small infrastructure projects of up to \$75,000 (with a local contribution of at least a tenth of what is sought from the fund)—although it can consist of materials, equipment or labour and not necessarily money. The selection process has been designed to ensure that the project reaches relatively poor regions, counties, communes and households—ultimately 250 communes and 15 counties should benefit from help to improve governance and decision-making plus investment grants for infrastructure. The three strongest regions (Central, Bucharest-Ilfov and West) have been left out in favour of pilots in the other five where competition has produced a programme embracing 20 communes in the counties of Botoşani (North East); Calaraşi (South); Dolj (South West); Salaj (North West) and Tulcea (South East). The RSDF has \$2.0 million to address the problems of poor villages and marginal groups, i.e. a ‘window’ for Community Based Organizations. While a few non-poor communes are included to allow comparisons and cross-commune learning, most of the communes are deprived areas where poor/remote villages and marginal groups will be identified so that representatives can be drawn into consultation and decision making processes. The Ministry of Public Administration has also funded rural infrastructure projects, mostly in the South and South West, but Suceava county in the North East has done very well in attracting funding for energy projects (including a \$336 million Danish credit) which will bring the county’s utilities and environmental standards close to European levels. But it is evident that an even allocation of funds is compromised by inadequate applications arising from a lack of local government capacity in preparing projects (an area in which Suceava county

evidently excels). The same situation applies in the case of SAPARD Category Two involving some 860 approved projects for road and water supply improvements in 2002 with a total cost of €680 million. In this instance North East was the leading beneficiary with €172 million, followed by the South (€143 million), North West (€100 million), South West (€98 million) and South East (€88 million).

RURAL FINANCE AND BUSINESS

Finally, there is a considerable literature on the need to improve finance for private farming first raised by Hare and Davies (1997) with subsequent contributions by Davies and Gaburci (1999) and Heidhues and Schrieder (2000). The situation has been improved by the privatization of Banca Agricola in favoured of Raiffeisen (Austria). In addition, Popov and Lubieniechi (2001 p.v) recommended commune development plans aided by business development support and more organizations—women’s groups and business/farming clubs to help with marketing and training; also ‘partnerships among groups of communes with common problems where these can be addressed more effectively at a larger scale than the individual commune’. There has to be a rediscovery of identity and all areas need encouragement to help themselves. National programmes for small and medium-sized enterprises (SMEs) have been extended through private projects e.g. during 1999–2002 the Centre for Economic Development (a member of the Soros Open Network) successfully implemented micro-credits granted in 36 rural areas in Călăraşi, Dâmbovita, Iaşi and Prahova—part of a total portfolio of 1,800 such credits worth \$0.9 million altogether. Emphasis is placed on agriculture (procurement of seeds, fertilisers and fuel) but also handicraft workshops and services including rural tourism. However all forms of business have to come to terms with the inadequacies of rural infrastructure that is evident in most areas away from the urban fringes.

REGIONAL DEVELOPMENT: TOWARDS A SPATIAL CONCEPT FOR RURAL DEVELOPMENT

Further approaches to the rural poverty problem may be made through spatial planning related to the country's eight development regions introduced in 1998 in connection with Romania's approximation of the European 'acquis' (Turnock 2001). Although not specifically geared to areas of high poverty, regional employment prospects have been enhanced by the creation of free zones (with a prime focus on Danube and Black Sea ports) to attract foreign investment along with the best-located cities inland (Guran-Nica 2002). However some marginalized rural areas stand to benefit from cross-border cooperation (CBC) that has been a force for development since 1989 although initially the benefits arose through new housing financed through petrol smuggling across the Danube following the UN embargo against Serbia in 1992 when a growing number of filling stations in the border provided a cover for petrol deliveries. However more permanent relations are arising out of Romania's involvement in the EU INTERREG II programme (1994–2000) and the provision of PHARE CBC funding (from 1997) for projects aiming at good neighbourliness and social stability in border regions; especially for better border crossing points and control of floods and droughts. Most activity has taken place on the Hungarian border: through business zones and industrial parks as well as the Csenger innovation centre and animal husbandry project to support cattle farmers and provide a model farm with dairying and meat processing (Pal 2000). The national plan for 2000–2006, which correlates with INTERREG III, sees opportunity for CBC since (a) growth is spilling over from Hungary; but also (b) areas bordering Bulgaria, Moldova and Ukraine are among the most disadvantaged: so 'stimulating CBC projects could represent an opportunity for economic development in these regions if a favourable environment is found in partner countries' (ANDR 2000a: 122). The Timișoara

Chamber of Commerce has fostered a Romanian-Hungarian business partnership for the production of medical equipment, ready-mades, food, building materials, spare parts and reconditioned buses. In 2000 an economic-cultural partnership for cooperation between Szabolcs-Szatmár-Bereg and Satu Mare (also Ukrainian Transcarpathia) was set up in Nyíregyháza to develop tourism and also to cope with problems of flooding and pollution and tourism (2000). Thus there is deepening cooperation overcoming suspicion and the constraints arising through language and different administration. A flood-monitoring GIS system is developing across the Tisa basin while US Agency for International Development (USAID) allocates \$3.0 million for environmental protection with emphasis on cross-border pollution in the Criș basin.

In response to restructuring various programmes have been made available, notably the Programme of Industrial Restructuring & Professional Reconversion supported by international financial institutions (Figure 2). And on a smaller scale USAID have given financial support to local partnerships working to create jobs in small towns. Meanwhile the Romanian government recognized Less-Favoured Areas (LFAs) in the domain of unemployment arising from the mine closure programme launched in 1998–9 to reduce the losses of the state coal mining companies based in Petroșani and Ploiești and the metalliferous ore producing companies in Baia Mare and Deva. There was grave concern over the danger of social unrest, given the history of the Petroșani miners in using their industrial muscle (evident in their challenge of the Ceaușescu regime in 1977 and several direct interventions in Bucharest in the early 1990s). Hence the observation by Kideckel et al. (2000 p. 154) that 'a concerted effort in jobs and job retraining, health care, infrastructure, is absolutely critical' in this area. After Hunedoara county (within which Petroșani lies) sought fiscal incentives for the area in 1997, the government launched a nationwide programme the following year offering special regimes for the areas with

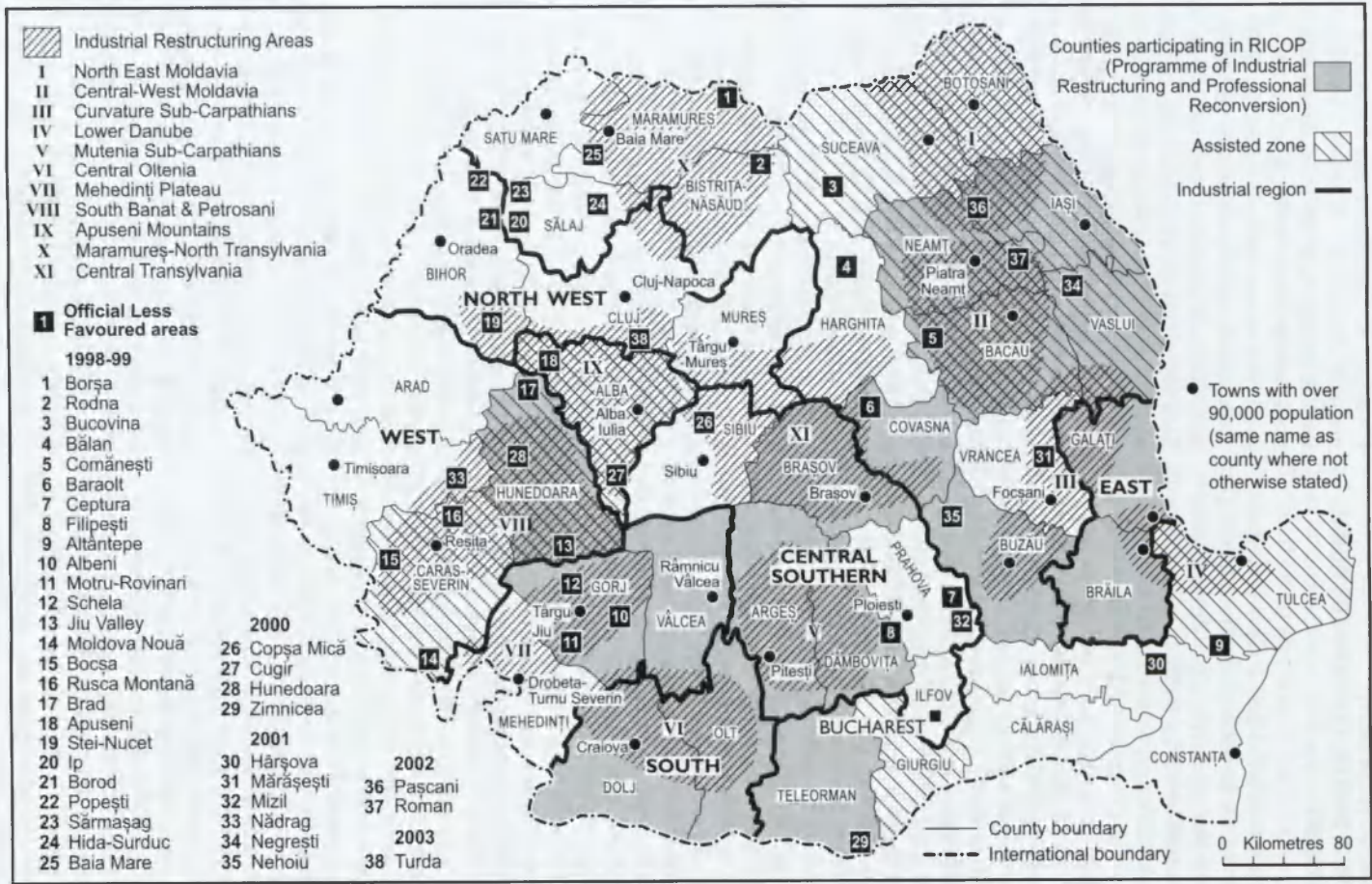


Figure 2. Aspects of regional development.

unemployment more than 50% above the national average; a mono-industrial structure; and collective redundancies above a quarter of employees (Ianoş 2000). There are tax concessions for investors (including those already underway) according to levels of job creation, while the population in general would benefit from discounts on transport tariffs and agricultural revenue taxes.

There were initially 25 such regions in 1998–9 but a further 13 regions were approved after county or regional council recommendation in 2000–3 (Popescu et al. 2003). Many firms have moved into these zones but the jobs created are not enough to compensate for those lost and some families have acquired houses in villages and retreated into a life of subsistence farming. Investment levels were highly varied with €75.9 million in Comaneşti and 0.4 in Rusca Montana. Each of the c.40,000 jobs created during 1999–2001 required investment capital of €9,014 and fiscal concessions amounting to €3,147 and some critics felt this difficult to justify when most of the country was disadvantaged in some way. A particular anomaly arose in the case of meat processing because subsidized imports undercut producers outside LFAs who were using Romanian meat and the national meat market was upset as a result. Nevertheless, a range of projects—concerned with retraining (e.g. IT skills) and the encouragement of SMEs (especially in service trades) as a route to diversification—have been implemented in these areas. Although a good many urban centres are involved there are often extensive rural areas included and in 12 cases the LFAs are entirely rural.

LFAs were criticized in Brussels since fiscal concessions distorted the level playing field for new business. With PHARE assistance a broader system of restructuring areas was devised in 2001 where the emphasis was on improving conditions and stimulating new SMEs rather than maintaining substantial fiscal advantages. There are 11 Industrial Restructuring Areas (IRAs) covering groups of towns and industrialized rural communes in specific zones cover-

ing parts of several counties. All the eight development regions apart from Bucharest have interests in these areas (two each in the North East, South East and South West and one each in the other four plus one shared between the Centre and North West) where substantial financial assistance became available in 2003 for the development of SMEs. However it must be emphasized that this scheme does not exhaust the help given to SMEs which benefit from a range of programmes, usually affecting particular parts of the country and not least the rural areas which have been benefiting since 2003 from SAPARD. Most of the LFAs designated by the end of 2001 are now covered by the new IRAs, although the handbook for applicants seeking finance for SMEs in the Restructuring Areas is quite categorical about the LFAs having an extremely difficult socio-economic conditions and the SWOT analysis (identifying strengths, weaknesses, opportunities and threats) for each IRA highlights the relevant LFAs as offering particularly attractive opportunities. Accordingly, new rules imposed in 2003 restricted fiscal concessions to customs duties on raw materials (except in the meat industry, already referred to) and removed the concessions over profits tax from new ventures. Furthermore, the qualification for LFA status changed to total unemployment more than three times the national average. On this basis a total of 13 non-mining areas gained LFA status during 2001–3, but only for three years (except for the four designations in 2000 which have a ten year span—though five in the case of Hunedoara).

The option of establishing industrial estates to stimulate inward investment has also been considered for some time. Vâlcea County Council were interested in a 50 ha technological park at Horezu where companies and educational establishments could develop technology (software, hardware or communications). Progress was anticipated during 1998–2000 but resources were lacking. However by 2002 legislation was available whereby councils and other organizations could set up industry and technology parks with the help

of co-financing and some fiscal concessions: relief from all taxes on imported machinery, equipment, vehicles and raw materials; also allowances against profits tax. The aim is to stimulate regional and local development through provision of attractive conditions for private sector growth in priority economic activities with preference for high technology to provide jobs for the well-qualified; also to maximise value added, reduce import dependence and provide competitive goods and services for home and world markets. An ideal situation would be for parks to redevelop derelict/ polluted sites but local authorities don't always own the land or possess the resources and hence partnerships may be appropriate. However, greenfield developments close to airports or main roads are also likely. The opportunity is available to provide a good environment for industry in high unemployment areas. Several parks are associated with subsidiaries of the state armaments manufacturer Romarm and they clearly make a link with unemployment in one of Romania's problem industries; as does the park established in the mining area of Baraolt north of Braşov. But equally business interests in the growth areas could reinforce their advantages as in Bucharest, Sibiu and Timişoara where investors appreciate qualified labour and immediate access to transport corridors. Romania's first scientific/technological park was created in southern Bucharest within the National Institute for Research & Design in Electrical Engineering, with plans for further parks in Braşov, Cluj-Napoca, Craiova and Timişoara. Despite the urban emphasis job creation has relevance to rural areas through the revival of commuting to work.

REGIONAL PROGRAMMES FOR RURAL REGIONS

Early in the transition period the Carpathians were seen as a problem region on account of the physical limitations on agriculture and the lack of investment during the communist era in areas that had, in some cases for logistical reasons, escaped collectivization but without the capacity to expand on the basis of private enterprise. At the same time there were rural specialists close to the first post-

communist (Salvation Front) government familiar with the West European mountainology agenda concerned with family farm modernization and pluriactivity. Prominent here was the veterinary specialist Radu Rey who had published books in the communist period (e.g. 1979) commending a more flexible approach to rural development. A big improvement in distribution was called for, including better links with the food processors and a stronger technical base for an ecologically sustainable agriculture. Assistance was initially provided in 1991—for all but the fringe areas of the Carpathians—by a Commission (later Agency) for Mountainous Regions. The Commission also contributed to a drive over agrotourism because—associated with craft industries—it was seen as a way of boosting pluriactivity (Mitrache 1996). Complementing a West European initiative (Opérations Villages Roumains: OVR) which organized a network of pilot projects in 1993, the Commission created momentum by promoting model agrotourist farms, leading in 1994 to the formation of a national NGO for rural and ecological tourism (ANTREC) for rural and ecological tourism. At this stage PHARE supported pilot projects by both ANTREC and OVR and the two networks have continued to flourish. The first nationwide guidebook was published in 1998, the year that Senate passed legislation extending the programme nationwide with provision for various facilities from local government as well as ten years of tax relief for units with no more than ten rooms. Meanwhile it should be added that a special case was made for the Apuseni Mountains when an infrastructure study by the Planning Ministry during 1993–4 was developed into a Special Assistance & Development Programme launched in 1996 in the aftermath of serious flooding the previous year (Abrudan and Turnock 1999; Ianoş 1999). There have been significant improvements to river banks, local roads and electricity supply. It has also been possible to provide fiscal concessions for the woodworkers of the Aries Valley who traditionally marketed their wares in the adjacent lowlands with custom-

ary rights to station their carts on common grazings. To encourage settlement there are free allocations of timber for house building for incoming professionals (doctors, priests and teachers) and for young married couples already living in the area. However, tourism is not yet making a major contribution since the infrastructure is poor (with a somewhat 'inflated' star classification for hotels) and visitors stay for relatively short periods.

But with an eye on the general election due at the end of 1996, the Vacaroiu government took further initiatives in rural development in lowland areas with relatively few employment opportunities outside agriculture. There was interest taken in the Danube Delta through the conservation movement and the need to protect communities through a further phase of land use change. Given that a biosphere research was being established in the area, the government was keen to demonstrate that sustainable development was on the menu for local communities. Here the special programme provided for investment in road improvements to 2004 and beyond (as in the Apuseni) but also the restart of regular shipping services including local ferries across the Danube at Sulina and Tulcea (the latter serving Ukraine) and the clearance of wrecks from the navigation channel. There would be sustainable development through a reinvigorated economy, including the reactivation of ocean fishing; salary premiums for incoming professionals as well as cuts in local taxes and water and energy costs. Urban status was promised for Mahmudia and Unirea. But on a much bigger scale, a special programme was drawn up for Botoşani, Vaslui and Giurgiu counties providing concessions over profits tax for five years in respect of investment to create new jobs. There would be better infrastructure—covering telecommunications and roads as well as the Dăngeni-Darabani and Hârlau-Flaminzi railways—and Free Zone at Giurgiu. Several lakes were to be built in connection with the regulation of the Jijia and other rivers, while other works would combat soil erosion. Other features included retraining (for 13,500 people annually in

Botoşani and Vaslui), education and health service improvements, cross-border cooperation, help for SMEs and agricultural marketing generally (with National Bank credits at half the normal rate of interest); and tax concessions both for newcomers moving into depopulated zones and entrepreneurs investing in livestock farms and agricultural processing and services. This represented a substantial change away from a rather opportunist mountain programme to one based on a study of poverty which was—by the mid-1990s—being recognized as a major political problem rooted in lowland agricultural areas, rather than in the mountains where mining and forest exploitation were still providing work.

The new centre-right government which gained power at the end of 1996 continued the switch to lowland areas by temporarily sidelining the mountain programme which was left in the hands of a Federation for Mountain Development (an NGO) concerned with rural tourism, marketing and the transfer of relevant foreign experience on local development in mountain regions. Meanwhile a finer focus was sought through identification of extremely less-favoured areas according to relevant criteria such as isolation, unemployment and poor infrastructure (Ianoş 2001). 'Regional policy for the poorest areas should be correlated with agricultural regional policy [for it] will be impossible to break the poverty circle in these areas if agriculture is not supported to recover' (Ramboll Consultancy Group 1997 p. 5). Less-favoured areas were sought by researchers at the Ministry of Agriculture and Urbanproiect (Bordânc and Nancu 1999), reflecting the EU Objective 5b (aiming to reduce a high level of dependence on agriculture along with low agricultural incomes and tendency to depopulation) and recognizing 'poor' regions where agriculture exceeded 60% of all employment. Research by F. Bordânc at the Ministry of Agriculture for to establish a pattern of less-favoured rural areas showed many similarities with the zones of 'high poverty' previously identified by Puwak (1992 pp. 39–40) (Figure 3). These may be compared with 'underdevel-

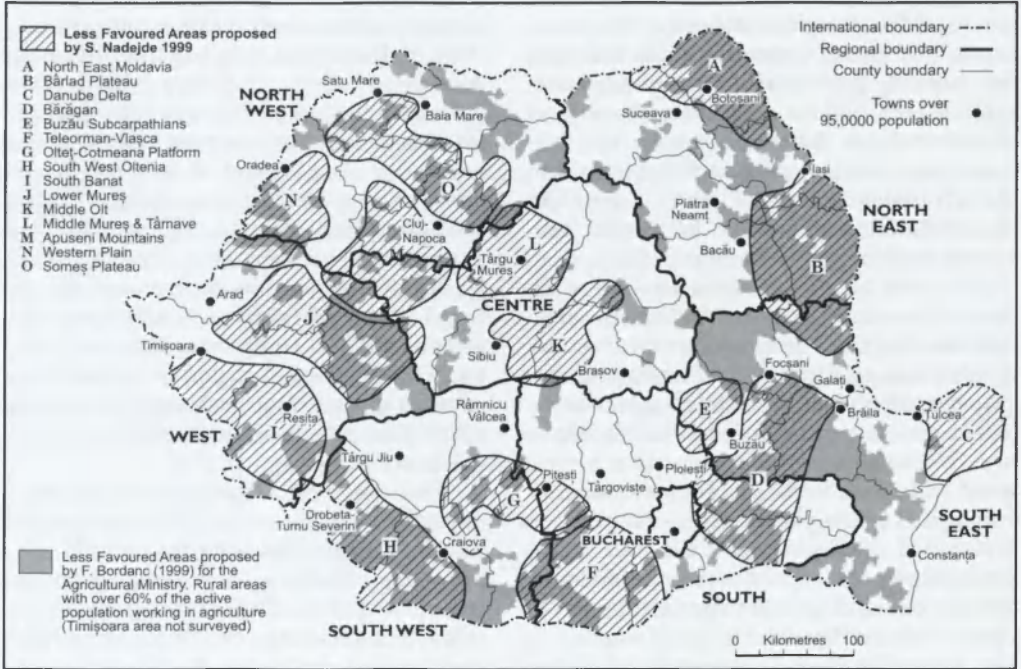


Figure 3. Less favoured rural areas.

oped' areas recognized by Nadejde (1999), based at Urbanproiect, who used 17 criteria, arranged into four categories (geography, demography, economy and social issues), to identify 15 rural regions where four or more criteria apply: the great majority lie outside the mountain zone.

It is quite clear that these areas are often extremely deprived with high unemployment, out-migration and an ageing population often facing the additional constraints of poor infrastructure and unstable terrain subject to erosion and landslides. Bordânc's latest formula (2003 personal communication) would recognize severely unfavourable rural zones with dependence on agriculture exceeding 80% (and a World Bank index exceeding 19.19); unfavourable zones where the respective criteria would be 15.31 and 60%; compared with 40% and 11.41 for moderately favoured zones; and below 40% and 6.50 for

favoured zones. There would be cross-cutting criteria regarding structural difficulty, traditions regarding family farms as opposed to estate farms and levels of market influence. Thus a strong family farm ethos combined with poor marketing structures produces subsistence farms whereas better marketing opportunities would open the way for family farm enterprises. However this work has not produced any officially-sanctioned scheme, although the database has doubtless helped national and local government to prioritize. Some further ad hoc approaches can be found in the regional plans (ANDR 2000a) e.g. for the North East which highlights problem areas arising from severe poverty, unemployment and industrial decline, isolation and inadequate infrastructure, water shortage, landslides and floods. Timiș County has an even more complex system (Coifan 1999 pp. 123–36). Apart from declining industrial ar-

eas, there are economically backward areas (and some that were even backward agriculturally); areas poorly integrated with county and national road systems; areas with a poor infrastructure concerned with electricity, transport and water; heavily depopulated areas; frontier zones; and areas either exposed to environmental risk or of great importance for conservation.

In the absence of an agreed set of less-favoured areas, the government focused its poverty alleviation strategy from 1998 on lowland regions that were an extension of those featuring in the previous government's strategy. The \$45 million RSDF (monitored by the World Bank with finance by the International Bank for Reconstruction & Development, the Council of Europe Fund for Social Development, the British Council Know-How Fund, USAID and the Romanian government) aimed to help with rural housing, infrastructure (electricity, roads and water) and social services (including community centres) as well as job creation in agriculture and food processing; with US\$20 million set aside for social support in the disadvantaged rural areas identified in eastern Moldavia (Botoşani, Iaşi, Neamţ, Suceava and Vaslui counties), the Danube valley (including Calaraşi, Giurgiu, Ialomiţa and Teleorman), Oltenia (Mehedinti-Gorj-Olt) and Dobrogea (Constanţa). It was hoped that depopulation might be eliminated and young farmers established with financial support—and compensation for aged persons who would give up their land. There was also a gender component through regional gender empowerment projects in rural areas, with experiments in setting up pilot food production units operated by women. The studies were carried by the Institute for Social Science & Reform in two deprived areas: the Buzău Subcarpathians and Vaslui in Moldavia. The possibility of processing meat, fruit and vegetables was explored, as was a tailoring and knitwear workshop.

DEVELOPING THE CENTRAL PLACE SYSTEM

More rural enterprise is arguably dependent on a more cohesive central place hierar-

chy. Currently there is dynamism only in the main cities, but intervention has been recommended in support of former county centres—like Lugoj and Mediaş, marginalized under communism—on the grounds that the state should not stand idly by while the urban system works through a phase of turbulence. A revised administrative model would restore the district ('plasa') level dormant since the communist 'raioane' were suppressed in 1968) and create two new counties in Moldavia for Roman and Tutova (Bârlad) (Sageata 2003). Transport costs to reach the large cities are high and services should be more highly decentralized. Considerable areas in Baragan-Dobrogea, Moldavia, Oltenia and northwest Transylvania lie 25–30kms from their nearest towns—even further from 'large' towns with a population exceeding 30,000—and more accessible centres for inter-communal services are needed. Local rural centres should be made more attractive; ideally gaining urban status in the short or medium term (which five places have succeeded in doing since 1989). Many rural settlements have a history of centrality with respect to markets and other services for their surrounding districts. Case studies are available (Muica and Turnock 1997) while Turcanasu (1996) has proposed an extended urban network for the whole of Moldavia. In this way it would be possible to envisage growth extending through a hierarchy of settlements and development axes 'enhancing competition among localities for strengthening the abilities to make use of local potential' (Vrabete and Popse 1999: 263), backed by a better-qualified workforce, community participation, institutional capacities (NGOs helping to forge public-private partnerships) and sustainable development: including the development of local images grounded in history and culture for rural tourism, where currently much growth concerns the building of second homes by urban dwellers e.g. Valișoara in Alba, Ranca in Gorj and Tulnici in Vrancea. However it will not be easy for enterprise to penetrate outlying rural districts. Although Von Hirschhausen (1998: 264) remarks on the contrast between 'ultra individualist' communes in the Carpathian

zone—grading through different levels of association to ‘neo-collectives’ and informal family associations—there are strong support structures and people ‘in the mountain communities with a tradition of independent farms and a long history of operating independent businesses are better able to develop business plans and initiate new business activity’ (Popov and Lubieniechi 2001). With few NGOs in the least-developed rural areas and poor leadership after decades of communism with its urbanizing-centralizing ethos, it may be down to the small towns and the most dynamic rural centres to draw the surrounding communes into district-level associations.

CONCLUSION

Poverty in Romania has not been created by transition: it is endemic in a country that has never been able to convert its peasant agriculture into a diverse high output economy. Despite the herculean efforts under communism and the full panoply of a closed planned economy to maintain labour intensive industrial systems agriculture remained a sector endowed with part-time workers and limited mechanical assistance. Now the dismantling of the communist industrial establishment has created a large pool of unemployed people while greatly extending agriculture’s social function. Despite the euphoria of land restitution millions are surviving with minimal cash resources to provide comforts and virtually nothing to cope with emergencies. A demoralized public can readily suppose that politicians have chosen the wrong road, given the ‘troubles and miseries of daily life’ perceived through individual experience and media portrayal. Yet the situation is arguably the reverse with a reluctance to sponsor rapid reform that might increase deprivation in the short term yet a realization that ‘no change’ is not an option if growth and investment is desired. The dilemma is one of finding resources to relieve poverty while at the same time investing in restructuring and modernization without which new jobs cannot be created in significant numbers.

The rural areas present a particularly acute dilemma. The beneficiaries of restitution may settle for their subsistence holdings after the ‘neo-serfdom’ of the communist collective. Yet while it may be comforting that rural poverty should become relatively ‘invisible’ this is not a satisfactory resolution in the context of an inclusive society and human resources will continue to drain away through the emigration of the younger people. It is essential that a better business environment should be created and the efforts of the past eight years should bring some benefit. Yet at the end of the day the future lies with communities and the way they manage their affairs. Communist destruction of civil society and suppression of local initiative has perhaps been the most damaging aspect of Romanian life during the late 20th century. For in a situation where the state is responsible and yet open to criticism for its interference, there is an obvious opportunity for local government and NGOs to show initiative. It is therefore wholly appropriate that a major plank in any growth strategy linked with the relief of poverty should seek to enhance ‘capacity’ in rural areas—a strong feature of World Bank programmes especially. This needs to be built upon through further fiscal decentralization and possibly by local government reform to provide scope for district level units—traditional in Romania through the ‘plasa’ but marginalized since the abolition of the ‘raioane’ in 1968. The European agenda may well offer a way forward—offering the prospect of membership in 2007—but it has yet to engage the rural population through more formalized community involvement in the competition for resources.

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IS THE DONETSK MODEL SUSTAINABLE?

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Abstract: The regional economy and polity of Donetsk is monopolized by a coherent group of financial-industrial groupings. These groupings operate in the context of a neo-patrimonial polity in which clan loyalty is more important than formal rules. The dynamics of clan politics provides the key to understanding the social and economic predicament of Donetsk, while the 'virtual economy' approach and the model of 'partial reform equilibrium' are not very helpful in explaining the economic development of Donetsk. The question of the economic and social sustainability of the 'Donetsk model' is addressed.

Key words: Ukraine, transition economies, regional economics, clan politics

INTRODUCTION

During Ukraine's Orange Revolution (November-December 2004) the 'Donetsk model' figured prominently because Viktor Yanukovych, the official candidate who lost the re-run of a fraudulent presidential election after a popular revolt, originates from Donetsk. He personified the Donetsk model of governance during his tenure as Prime Minister (November 2002–December 2004). However, this model was associated by his opponents with authoritarianism, clan rule and close links with Russia. The Orange Revolution can also be seen as the end of the attempt to supplant to the national level the model in question, which entails a merging of political and economic power with total suppression of dissent and unbridled corruption.

In spite of these shortcomings, the model was interesting to many within the political and business elite because it had apparently

led to political stability and strong economic growth in its region.

This contribution therefore seeks to analyze the distinctive features of the Donetsk model and to question whether the strategy of the Donetsk clan may lead to sustainable economic development in the region, and to what extent the Orange Revolution has led to an erosion of the distinctive features of the Donetsk model.

THE PREDICAMENT OF DONETSK

With 4.7 million inhabitants (14 February 2004) and 10% of the total population of Ukraine Donetsk, in the centre of Donbass (Eastern Ukraine), is its most populous province. It accounts for 19.4% of Ukrainian industrial production, for 12.3% of gross national value added and for 25.4% of Ukrainian exports (2004). One fifth of all those employed work in coalmining.

Heavy industry accounts for more than half of industrial production. The overwhelming majority of the population of Donetsk is Russian-speaking, and the region has traditionally had strong links with Russia.

The end of Soviet rule saw the emergence in Donetsk of clan networks that operated partly legally and partly in the shadows. The reforms under Mikhail Gorbachev, especially the new law on enterprises (1987), gave opportunities for the upper echelons of the party-state, especially the leaders of Komsomol (the communist youth organization), to enrich themselves. Satellite companies were formed around large state enterprises while trading with them. This was very profitable, and even before the collapse of the Soviet Union, fortunes were being made by the squeezing of state-owned companies.

In Donetsk, the myriad of commercial firms that emerged around large state enterprises were linked to these enterprises through close personal ties. It was frequent for the commercial firms providing services to these state-owned companies, or purchasing their products, to be headed by close relatives of their directors. Indeed, sometimes the directors themselves headed the commercial companies. This squeezing of state-owned enterprises was overseen by the local and provincial public authorities, especially the secret services and the judiciary. They were complicit in this state-managed economy and profited directly from the plunder of state-owned companies. State functionaries were often involved in the commercial firms and without their approval, the squeezing of state-owned enterprises would not have been possible. The primary accumulation of capital in Donetsk was thus based on the plunder of state-owned companies, with the complicity of public authorities.

Following the independence of Ukraine, the period of hyperinflation (1992–1995) saw commercial firms boom as prices were freed and opportunities for speculation widened. Huge fortunes were made especially through energy trade and steel exports. In Donetsk, the origins of many fortunes lay in coalmining. A very popular business was supplying

steel, equipment, conveyor belts and other materials to coal mines in exchange for coal (especially coking coal), with its further supply to coke-chemical plants, metallurgical enterprises and power plants.

Although coalmining was a loss-making sector and dependent upon sizable state subsidies, commercial groups were price-setters and generated wide profit margins in trading coal. Through their influence upon the public authorities in Donetsk, they arranged for themselves to be imposed as sole suppliers upon enterprises.

Part of the profits of these commercial firms disappeared into off-shore accounts, while part was used in buying up other firms. In the waves of privatizations commercial firms acquired a broad range of enterprises, not mainly manufacturing enterprises but rather, for example, the local football club, hotels, shops, cafes and restaurants. Privatization in Ukraine proceeded very slowly, and the large strategic enterprises that are dominating the economy of Donetsk were privatized from the late 1990s onwards.

The first sign that commercial firms had established themselves politically came with the appointment of Vladimir Shcherban as head of the provincial council (July 1994). He represented these commercial groups. In 1993 and 1994, the power of the Donetsk clan was at its height. This was shortly after the miners' strike (1993), that brought a leader of the Donetsk clan, Efim Zviagilsky, to the top of the government in Kyiv. Miners' strikes were used by local politicians to their advantage, in their negotiations with Kyiv.

After the transition started, former communist leaders stayed in power, if gradually being supplemented by representatives of the new commercial groups and criminal elements. Elections were manipulated and the popular voice was hardly represented in the polity of Donetsk.

In the mid 1990s, clashes between competing clans over the control of energy supplies became very violent. Clashes over resources led to Vladimir Shcherban being removed as head of the provincial council in 1996. Akhmet Bragin, at that time owner

of the Shakhtyer football club and mentor of Rinat Akhmetov (born 1966), the present most powerful tycoon in Donetsk, was blown up with six of his bodyguards during a football match. In November, Yevgeniy Shcherban, a member of parliament from Donetsk, was gunned down. In Spring 1996 two other leading Donetsk businessmen were assassinated.

Outsiders, i.e. people from other regions, were involved. Pavel Lazarenko, who was Prime Minister in 1996–1997, is from a clan based in Dnipropetrovsk (to which ex-president Kuchma also belongs), amassed a fortune by buying and selling natural gas from Russia. He wanted to expand his business empire by imposing himself upon steel enterprises in Donetsk. He wanted his United Energy Systems to control the emerging chain of gas-metal-gas pipes (Lyakh 2001: 9). To this end (according to the General Prosecutor of Ukraine), he ordered the killing of several leaders of the Donetsk clan. The Donetsk groups lost the conflict and thereafter concentrated on seizing control of steel enterprises in Donetsk.

The years 1995–1997 brought the commencement of the unification of fragmented elite groups under the banner of regional autonomy. Politicians from Donetsk wanted regional autonomy in order to control local energy resources and maintain their freedom to develop economic relations with Russia. Groups that had previously been involved in the shadow economy also became active in legal business. This period was also marked by the criminalization of the political sphere.

In May 1997, the governor of Donetsk Serhiy Polyakov (a Lazarenko protégé) was replaced by Viktor Yanukovych. His appointment was a compromise between Donetsk and the authorities in Kyiv. He had business interests in Donetsk and was close to Akhmetov, but was at the same time supporting President Kuchma.

In the wake of the violent clashes, the Donetsk clans built up their empires in silence from 1997, without openly challenging state power in Kyiv. A silent compromise emerged between Kyiv and Donetsk: Donetsk organized support for the President,

guaranteeing a majority for him in Donbass, while Kyiv would let the Donetsk clan manage its own affairs. The device was 'politics is done in Kyiv and business in the Donbass'. It meant that the Donetsk clan could constitute its own fiefdom, with its own rules different from those in Kyiv, under the condition of loyalty to President Kuchma.

After the coal mines and coke factories, the steel enterprises (most of which were privatized from 1998 onwards) came under the control of the major commercial groups. These transformed into financial-industrial groups that were so powerful, financially and politically, and so well organized, having eliminated thousands of small commercial competitors while forging unity among the few remaining holding companies), that the takeover of the large enterprises in Donetsk proved an easy task.

In 2000, privatization of machine-building enterprises started, and local financial and industrial groups gained controlling stakes in most of them. The Industrial Union of Donbass (IUD) and the related grouping ARS created Ukruglemash, which unifies six local enterprises producing equipment for mining and steel manufacturing (*Salon Dona i Basa*, 31 May 2001).

In 2001, Donbassenergo (the largest energy distributor in Ukraine and owner of several thermal power generating stations), also came under the control of the IUD after a shadow privatization. Like all the regional energy distributors, Donbassenergo was heavily indebted. A commercial company linked to steel mills and under the control of the IUD filed a suit against Donbassenergo in relation to a debt of 50 million dollars, and the court in Donetsk declared Donbassenergo bankrupt. Donbassenergo's assets were assessed by a company that valued its property at approximately 20% of its market value, although the amount owed to Donbassenergo was valued at more than 285 million dollars, while payables were 415 million dollars. With the auction of Donbassenergo, the IUD gained control over by far the largest power supplier of Donbass. However, the government and President Kuchma

protested and tried in vain to have the court verdict annulled.

It meant that the whole energy sector, all of the basic industries plus the greater part of machine-building in Donetsk came under the control of the Donetsk financial-industrial groups that cooperate closely with each other. The Donetsk clan controls the three most important production chains in Donetsk: coking coal-coke-metal; energy coal - electricity- steel and gas-steel-gas pipes. Financial-industrial groups are integrating production in Donetsk in a vertical and horizontal way. Vertical integration offers the advantage of value added tax in the production chain being avoided.

Privatization was meant to create more efficient economic structures and competition. Instead, it created a quasi monopoly in Donetsk that controlled the whole regional economy.

A redistribution of assets in 2001–2003 sought to streamline the portfolio of activities of the major groupings. Rinat Akhmetov, the richest tycoon in Donetsk, heads Systems Capital Management (SCM), while the second most important group is the Industrial Union of Donetsk (IUD), as led by Serhiy Taruta. The process deprived the Donetsk clan of some of the cohesiveness that made it so strong in Kyiv. On the other hand, the redistribution of assets made the core financial industrial groups more efficient, and freed finances for further expansion beyond the borders of Donetsk. This first took place in the bordering provinces of Zaporizhzhya, Dnipropetrovsk, Luhansk and Crimea, before extending to Kyiv.

In 2003–2004, the IUD bought two steel enterprises in Hungary and gained a 39% stake in Uzbek Uzneftegazstroi. It acquired a steel plant in Częstochowa (Poland) in July 2005 and showed interest in a Polish shipyard (*Zerkalo Nedeli*, 20 February 2004, *Financial Times*, 31 May 2005). This fits in with the strategy of controlling whole production cycles. SCM also sought expansion abroad.

A conspicuous truth about the IUD and SCM is that they owed little to former President Kuchma.

The Donetsk clan gained the energy ministry after Yulia Tymoshenko left the post (January 2001). In 2002, Mykola Azarov, who had formerly headed the Party of the Regions that represented the interests of the Donetsk clan, became head of the tax office, so making sure that the Donetsk clan would not pay too many taxes. On 14 March 2003, Medvedchuk's man in the state property fund was replaced by a man from Donetsk (*The Russia and Eurasia Review*, 30 April 2003). Henadiy Vasylyev, the former prosecutor in Donetsk oblast who oversaw the gang wars in the province while not managing to capture a single one of the assassins of the dozens of politicians and gang masters that have been killed, managed to become General Prosecutor. Even in his new post he harassed journalists who tried to publish information about his dealings with organized crime (*BBC Monitoring Service*, 22 December 2003). With the Orange Revolution, the Donetsk clan lost all these influential positions.

Did the consolidation of clan structures contribute to economic regeneration? To answer that question emphasis is placed on coalmining and steel production that together accounted for about three quarters of industrial output in Donetsk (2000).

COAL AND STEEL

Since the mid 1970s coalmining in Donetsk has been in decline. Soviet planners shifted their attention and investments to the exploitation of coal reserves further east, which were richer and easier to exploit. The costs of coalmining in Donetsk soared, not only in relation to difficult geological conditions, but also because of outdated equipment and a lack of investment. After independence, the decline in output accelerated (from 80 000 tonnes in 1990 to 41 000 tonnes in 1997).

Since 1996 the output of coking coal has been on the rise again. This is related to the surge in steel production. The sale of coking coal is attractive, because steel enterprises who export most of their production can pay with hard currency. In 2000, 80% of coking coal was paid for, while only 43% of the en-

ergy coal delivered to electric power plants (Bogatov 2001: 3). Power plants often could not pay for delivered coal, because their customers in turn did not pay for deliveries. Traders strengthened their grip on the state-owned coalmines to such an extent that they actually controlled the production process. They delivered machinery and other inputs, usually over-priced, while they bought up coal on the cheap. It was often barter schemes that were involved, and as a consequence coalmines hardly saw any money. Traders profited from the fact that mines are state-owned, because state subsidies filled the financial gaps left by these traders once the mines had been squeezed. State subsidies allowed for the payment of part of a miner's wages. Losses were inflated in order to attract more government subsidies, these actually slowing down the process of restructuring of coalmining. Although coal production has stabilized recently, the working conditions are still archaic—96% of mines have not been restructured over the past twenty years. Two thirds of the machinery needs urgent replacement and almost 60% of coal is delved manually, with hammers. President Yushchenko maintains that most state subsidies for the coal industry disappear into the pockets of intermediaries who operate in the shadows.

It is feasible that the coal sector will transform into a viable and profitable sector that can function without government support. Even the World Bank changed its stance and acknowledged in 2003 that *Ukraine possesses a coal resource base of significant value that is capable, under the condition of an effective completion of the sector restructuring programme, of providing a considerable share of the coal required by the Ukrainian economy and contributing to the country's energy security* (World Bank, 2003: 2). *Large part of the Ukrainian coal could be cost effective in comparison with alternative energy resources, even if the mines had to cover additional expenses for environmental protection and improved mine safety* (p. 15). As major problems the World Bank mentions an *inappropriate mixture of commercial and public interests and asset stripping* (World Bank 2003: 17). Coal

production can become more profitable, especially if the prices of oil and gas remain at a relatively high level.

The Ukrainian government tried twice to introduce genuine competition into the coal market. When Prime Minister Fokin (1992) made a speech about freeing up coal prices, he had to leave office shortly afterwards, by his departure from office, something that the Director General of the Illich steel plant (Mariupol) reminded Prime Minister Victor Yushchenko in January 2001 when he wanted to do the same (*BBC Summary of World Broadcast*, January 26, 2001). Yushchenko left the prime ministerial office in April 2001. The reforms that Yushchenko tried to implement would especially deprive the steel industry of inputs of cheap coal. Steel enterprises could get coke for half the world market price (*BBC Summary of World Broadcast*, September 27, 2001). Outsiders could do very little against the monopoly exercised by the Donetsk clan. In March 2001 the Anti-Monopoly Committee of Ukraine started to investigate the coking coal market in Donetsk after complaints of enterprises that are under the control of the Donetsk clan. After the chairman of the Antimonopoly committee was replaced in summer 2001, the investigation stalled (Bogatov 2001: 9). Since April 2001 reform in the coal sector has been halted, while cross subsidies between efficient and inefficient mines have been maintained. Nevertheless, coal production has stabilized since 2000. After the Orange Revolution, the government announced preparations for the reform of the coal sector. But by mid 2005 little had changed.

The same can be said of the steel industry. During the 1990s, financial-industrial groups imposed themselves upon steel enterprises and gradually acquired stakes in steel enterprises.¹ Nowadays, most steel en-

¹ In 1998, the State Property Fund sacked the director of Azovstal (Mariupol) and nominated another director. However, an intervention from the administration of President Kuchma annulled this nomination and the new director appointed immediately gave the Industrial Union of Donbass the exclusive right to buy steel from Azovstal. The profits made in trading steel from Azovstal were subsequently used to buy up 38% of the shares in Azovstal. However, not all steel enterprises

terprises in Donetsk are controlled by the inter-linked Donetsk clans.

Steel production increased again after 1997, after a steep decline in the period 1990–1997. This was related to a major increase in exports allowed for by low prices of Ukrainian steel. Steel prices are low because of low prices of inputs and tax rebates. The energy bills of steel enterprises are often not paid, and steel enterprises have only been paying half of the 30% profit tax since 1999 (*Kyiv Post*, January 24, 2002).

Recent economic growth in Donetsk is to a large extent related to the situation on the global steel market. Ukraine has become the second most important net exporter of steel in the world, after Japan, with 24.4 million metric tonnes in exports a year (2001), most of it coming from Donetsk province (International Iron and Steel Institute 2003). 46% of steel is still produced in open-hearth furnaces (Martin ovens) that were abandoned in the Western world as long as several decades ago (2002). No other country in the world has such a high share of steel production by Martin ovens.² Steel production mainly went up through the taking up of previously unused capacity, rather than through any investing in new capacity.³

The steel output of Ukraine (two thirds of which originates in Donetsk), increased by 150% in dollar terms during 2001–2004, and accounted in 2004 for 40% of Ukrainian exports and 27% of Ukrainian industrial output. However, output in tonnes only increased

by 15% (from 33 to 38 tonnes in the same period) (*Financial Times*, 31 May 2005).

The present economic structure of Donetsk is very unfavourable and biased towards heavy industry. Ferrous metals accounted for 44.9% of industrial production in Donetsk, coalmining for 13.1% (2003). The industrial structure deteriorated rapidly during the 1990s. In 2000, the basic industries accounted for 81.4% of all industrial output, while 59% in 1990. The share taken by light industry in industrial output was decimated, declining from 7% in 1990 to 0.3% in 2000 and the share taken by food processing decreased from 7.9% to 5.3% in the same period. Only since 1999 have the non-basic industries started to grow faster than the basic ones.

Machine building suffered most during the 1990s. Its share of industrial output decreased from 17% in 1990 to 8.6% in 2000 (12.0% in 2003). This should be seen in the context of a fall in industrial output of 48% in the years 1990–2000 (43% in Ukraine as a whole). It is noticeable that the high value industries, with which one might expect Donetsk to have a competitive advantage, have seen the sharpest decline. Here the collapse of Comecon and Soviet markets had a tremendous impact, as well as the collapse of domestic demand related to the sharp decline in investment. Only recently did the machinery industry start recovering again, but it will take some time before the production levels of the early 1990s are reached again.

are under the control of IUD. For example, the Illich steel plant is under the control of Vladimir Boiko, of the Zviagilsky clan.

² In 2003, Russia was second on the list, with 23.7% of steel production in Martin ovens. China has no steel production in Martin ovens (2003, *World Steel in Figures*, 2004 edition, International Iron and Steel Institute). The share of steel produced in Martin ovens is only declining slowly in Ukraine. It was 49% in the mid 1990s. Globally, 3.6% of steel is produced in Martin ovens (2002, was 6.6% in 1996). The share of Ukrainian steel produced in electric furnaces did not increase after the mid 1990s (5.9% in 1994, 5.4% in 2003; in 2003 32.6% of world steel was produced in electric furnaces).

³ Substantial investments do take place. For example, in July 2004 an international consortium decided to loan 100 million dollars to the Azovstal steel mill in order to modernize the plant.

AN INSTITUTIONALIST APPROACH

The situation in the so-called transition economies is usually described from a decision maker's or teleological perspective. It is assumed that policymakers in transition economies want a transition to a market economy and parliamentary democracy, as well as progress towards transition, which is measured using the yardstick of an idealized version of a market economy. The problem with such an approach is that decision-mak-

ers in Ukraine often declare contradictory and incompatible goals, that what they say is different from what they believe, and what they do is again different from both of these. In addition, government policies are often not implemented. Generally, there is an absence of ideas among policymakers, let alone blueprints.

Hellman (1998) tried to explain why so many transition economies became stuck on the reform path. His model describes a partial reform equilibrium in which winners of the first phase of the transition towards a market economy can block further reforms, and not the losers of reforms who might block reform through their vote. The model pretends to be universal for transition economies.

This is valid for Donetsk in as far as it explains that the major obstacle to further reform is not the fact that the population at large is anti-reform, but that the Donetsk clan is the main protagonist of the current situation. However, Hellman's model does not explain the circumstances in which the winners of the first phase might succeed in maintaining a distorted market economy, while blocking further reform. Hellman's approach also suggests that there is a direct correlation between more market and less rent-seeking activity. Looking at the post-Soviet area, one cannot say that the economy of Russia, which is more market oriented than that of Belarus, is less rent-seeking than the latter. Also, the centrally-planned economy was less rent-seeking than the transitional economic systems of the post-Soviet area. In the case of Donetsk, Hellman's approach fails to explain the nature of rent-seeking activities and the conditions for their transformation into productive activities.

Hellman's approach also assumes an initial desire on the part of policymakers to make a transition to market economy, while this project has been halted by the winners of the first phase in the transition. This assumption is not valid in the case of Ukraine. Generally, a decision-makers approach focused on the state is not very fruitful in a situation in which state institutions are very weak.

In Donetsk, the level of decision-making was important in seeing how inter-clan rivalries in Donetsk were managed in a new institutional setting and how clan-cooperation created new synergies with the aim of capturing assets elsewhere in Ukraine. The population at large hardly had a voice in the polity of Donetsk, either through elections or through interest-representing organizations. Dissent has always been suppressed and elections manipulated.⁴ Nevertheless, the creation of consensus and cohesion has been considered important and in 2001 governor Viktor Yanukovich created a broad front of 120 regional organizations, named 'For Unity, Consent and Renaissance', aimed at forging societal support for the elite's strategy to regenerate the region.

Gaddy and Ickes (1998) provided an alternative model of a virtual economy that traces patterns of value creation and value destruction in the Russian economy, providing an explanation as to how enterprises are able to shield against market forces. *An economy is emerging where prices are charged which no one pays in cash; where no one pays anything on time; where huge mutual debts are created that also can't be paid off in reasonable periods of time; where wages are declared and not paid; and so on... (this creates) illusionary 'virtual' earnings, which in turn lead to unpaid, or 'virtual' fiscal obligations, (with business conducted at) non-market, or 'virtual' prices.* So far the description fits the dominant economic relations in Donetsk very well. However, the model fails to identify what sectors might be value-subtracting. Vlad Ivanenko showed that, in 1997, of 15 analyzed sectors in Russia, only 2 were value destroying. He criticizes Gaddy and Ickes, saying that *the argument that the differences*

⁴ For example, during the 1999 presidential election, President Kuchma obtained 31% of the votes in Donetsk during the first round, the communist Symonenko, 39.5% and other opponents of Kuchma the rest. Kuchma won the second round with 53% of the vote. During the 2004 presidential elections, no other province reported as many violations as Donetsk. For example, through fraud, turnout in Donetsk increased from 78.1% of voters during the first round to 96.6% during the second round of the elections.

between money and barter prices amounted to an implicit subsidization of non-viable sectors is not substantiated. Although we find a few value destroying sectors, we provide alternative explanations for their negative value added (Ivanenko 2004: 102). Other weak points of the model are that it is economic while abstracting from the social and political context, and that it does not explain change.

The case of Donetsk shows that the virtual aspects of the economy are just attributes of a phenomenon that lies at the core of the regional economy, namely the monopolization of the main supply chains by a coherent group of clans, held together by cross shareholdings and led by the Industrial Union of Donbass and System Capital Management. Donetsk is a clan-based economy while the defining moment in its economic behaviour is rent-seeking.

Gaddy and Ickes (2001) modified their position later with saying that *barter is not the essence of the virtual economy. Barter is not the main problem of the Russian economy; it is a symptom of the problem. The essence of the virtual economy is enterprise behaviour that exploits what we have called relational capital to protect and maintain value destroying activity-soft goods production*. Indeed, the case of Donetsk shows that the decline in barter in the regional economy since 2000 did not affect the *modus operandi* of enterprises. Crucial to the economy of Donetsk is the state-enterprises interface and, related to it, the system of cross-subsidization.

In Donetsk, economic and political power are so intertwined that their separation for analytical purposes is obfuscating. Donetsk society and polity are patrimonial and characterized by personal rule, patron-client relations and endemic corruption. This is rooted in the Soviet and Tsarist past.

Much resembles the Soviet past. The Donetsk clan has its own political party: the Party of the Regions, founded in 2001. It functions as the local Party of Power that does not tolerate any dissent. Only decorative opposition parties, like the Communist Party, were tolerated up to the Orange Revolution. Donetsk has been the most danger-

ous place in Ukraine for critical journalists and opposition politicians.

The economy is quasi-centrally-planned with the role of the branch ministries being replaced at regional level by financial-industrial groupings. In Donetsk, the regional clan-structure, composed of regional bureaucrats, politicians and business tycoons, decides for regional enterprises what to sell or buy, how, and for what price, irrespective of the ownership structure of the enterprise. This mode of behaviour is most pronounced in the energy trade. As early as in 1996 Governor Shcherban ordered all regional enterprises to break off relations with all gas suppliers, except the Industrial Union of Donbass (Sarna 2002). In 2001, President Kuchma told the government to consider the idea of *creating an integrated fuel and energy organization for Donetsk within which prices would be fixed on special terms* (Sarna 2002). This resembles Soviet times more than any market economy.

The informal institutional environment in Donetsk reflects Soviet social practices. Economic behaviour can be seen in the context of these dominant social practices. Important elements are the insider-outsider logic of clan politics in Donetsk. Insiders are those individuals that are part of the clan and thereby the power structure, having access to resources. Rules of the game are different for outsiders and insiders. For example, insiders will obtain credit from local banks that are under the control of the local clans under much more favourable conditions than outsiders. Eventually, outsiders may be co-opted and become part of the power structure. What is peculiar to the Donetsk clan is that it makes foreign direct investment even more difficult than is the case in other Ukrainian regions.

Other crucial elements in the set of dominant practices are the cult of power and related practices demonstrating reluctance to delegate competences, a lack of horizontal cooperation and organizational differentiation, an aversion to transparency, corruption, distrust and deception. These social practices are embedded in a belief system

that is reminiscent of those in Soviet times. This does not stop local tycoons replacing old directors that survived the transition to the new economic system with young and much better educated managers that introduce more efficient management systems.

There seems to be a broadly-shared consensus in Donetsk that heavy industry should remain the basis of the regional economy, and therefore protected and subsidized. Underlying this consensus is the rejection of principles of economic rationality (even among economists), while most share the belief that value subtractors are actually value creators. A constituency for reform is not discernable in Donetsk, unlike in Kyiv. This does not mean that the elite is monolithic. For instance, a growing part of the elite in Donetsk is prepared to concede that many coalmines have to be closed.

Consensus seems to exist with respect to the neo-patrimonial rule of society. Even the leaders of independent miners' unions are very patrimonial in their world outlook, trusting the local patrons, including mine directors. In Donetsk there is widespread pride in the region and in its roots in coal and steel. The core of this identity is being an advanced industrial region, producing real value.

A broad consensus also exists as regards the restoration of the former division of labour in the post-Soviet area. Among the 62.3% of respondents to a survey in Donetsk as regards who favoured the development of economic ties with Russia, 27% favoured the re-establishment of the Soviet Union, 28% the conclusion of a political union with the CIS and 12% a union with Russia. In 2001, between 78 and 81% showed a positive attitude towards a possible union of Ukraine and Russia with Belarus (Zimmer 2002: 13).

Local tycoons are not despised, and are in some cases even quite popular. Rinat Akhmetov, the richest man in Donetsk and Ukraine is popular, in part thanks to his financing of the local football club. Although there is widespread dissatisfaction with living conditions in Donetsk, it is not the local politicians and oligarchs that are usually blamed, but the government in Kyiv, for fail-

ing to give enough subsidies. The rent-seeking behaviour of local oligarchs is not denied, but played down.

Rather than implementing a blueprint for a market economy and parliamentary democracy after the attainment of independence, well placed members from the former *Nomenklatura*, criminal elements and some new entrepreneurs used the institutional void created by the dissolution of the party-state to enrich themselves while using the state apparatus.

According to Douglas North (1990), institutional change always creates opportunities for those institutions that induce productivity increases and those that reduce productivity. Institutional change in the independent Ukraine and Donetsk can be said to have increased the latter kind institutions greatly. This is reflected in the spread of rent-seeking in all sectors of the economy. Although some economic stability (e.g. monetary stability), has superficially been achieved, insecure property rights, poorly enforced laws, barriers to entry and monopolistic restrictions have furthered short time horizons and discouraged productive activities. In Donetsk, monopoly rents are squeezed from most industrial enterprises. Rent-seeking by the Donetsk clan is facilitated by its capture of the state institutions at the regional level.

There is the argument of the exhaustion of rent-seeking opportunities with the gradual demise of coalmining and related state-subsidies, lessening opportunities to gain from gas trading and limitations of the international steel market. However, this does not necessarily push the oligarchs of Donetsk into abandoning their rent-seeking activities. It seems that over the past few years they are shifting their activities from channelling money abroad or using it for conspicuous consumption towards expanding their empire of enterprises into new sectors and new regions. Since 2000, some flight capital is used for this purpose, as is reflected in the increasing investments from Cyprus, the Bahamas and other tax havens.

But what conditions might push Donetsk on to another development trajectory?

PROSPECTS FOR SUSTAINABLE GROWTH

Since 1999, a prolonged economic decline has been followed by a renewed increase in output in Donetsk, and in Ukraine as a whole. Despite the stabilization of the economic and political situation in Donetsk, investment levels are still low, and local clans have preferred to use their financial power to expand their empires by buying up enterprises everywhere in Ukraine. Although investment levels have risen recently, investments in Donetsk province in 2003 were at only 38.3% of the 1990 level (27.1% in 2000; State Statistics Committee of Ukraine 2004: 219). During January-March 2002, the level of investment in Donetsk, in relation to industrial output, was at 10.2%, while in Ukraine it was 14.7% (*Ukrainian Economic Trends*, March 2002). In 2001, the province of Donetsk accounted for 11.1% of total capital assets put into operation in Ukraine, although Donetsk accounts for about 20% of industrial production. Initially, growth in output could be achieved by using idle capacities. However, investments have surged recently, as in Ukraine as a whole, a fact exemplified by the strong growth of machine building among other things. The steel industry was working at 95% of its capacity in 2003 and needed investments to secure further growth.

However, recent growth in Donetsk has been secured by several dozen large enterprises. In 2000 almost two thirds of regional industrial sales were accounted for by 17 enterprises, 8 of which were steel plants. Only 2 for 17 enterprises are not in heavy industry. This means that recent industrial growth is based on sectors with a bleak future. During January-May 2005, industrial output in Donetsk was 6.1% lower than in the same period in 2004 (Ukrainian Statistical Office; for Ukraine as a whole there was an increase of 6.2%). This might be related to the fact that the Donetsk clan was ousted from government.

Export performance is seen to be fragile, if one recalls that 70% of Donetsk exports consist of steel and steel products (State Statistics Committee of Ukraine 2004, Table

9.4). However, local authorities see this as an asset, and their regional strategy is based on further development of the basic industries, while neglecting other sectors.

An innovation in Donetsk was the creation of Free Economic Zones. Former President Kuchma supported this idea in 1999, in exchange for election victory in Donetsk during the presidential elections. However, in the virtual world of Donetsk nothing is what it seems. Free Economic Zones were not designed to attract foreign direct investment through tax holidays, but to allow enterprises of the Donetsk clan to organize tax evasion.⁵ Ex-President Kuchma decided not to abolish these Free Economic Zones despite strong criticism from the IMF and World Bank. Accumulated foreign investment in Donetsk in 2001 was 69 dollars per capita, cf. 91 dollars per capita in Ukraine (State Statistics Committee of Ukraine 2002). In 2003, the inflow of foreign direct investment into Donetsk province was 90.2 million dollar, i.e. 2.7% of the FDI inflow into Ukraine as a whole that year (State Statistics Committee of Ukraine 2004: 279).

This all means that economic growth since 1999 has had a rather fragile basis and is very much dependent on trading conditions on the world steel market and state support.

However, Donetsk has some assets on which to build. The most important seems to be its human capital, in terms of the educational levels of the general population. Despite the dire economic situation, more students are going into higher education.

⁵ Foreign enterprises were not really welcome, as the Donetsk clan did not want to share the assets of Donetsk. In the words of former President Kuchma, the Free Economic Zones had become semi-criminal zones that hardly attracted foreign direct investment (*Kyiv Post*, 6 February 2003). He said that *chicken legs and European beef are imported into these zones from Europe. They are dumped into our Free Economic Zones tax free* (*The Russia and Eurasia Review*, 30 April 2003). The attitude of the Donetsk clan very much recalls the situation in Russia, where, as a rule, local rulers are playing the political-economic game amongst themselves and consciously strategize to prevent newcomers from entering it. They keep much of the information about local affairs to themselves, and have established an exclusionary system of elite politics (see Mendras, M. 1999: 304–306).

At the same time, more graduates are employed below their level, not using their acquired skills and knowledge.

Donetsk also has a high degree of social and political cohesion, despite widespread poverty. There is a high degree of trust and cooperation within the upper echelons of the regional elite, and there is a highly-integrated regional economic complex. However, it seems that Donetsk is locked into archaic institutional structures that were relevant to an earlier phase of economic development but now constitute a barrier to any move to a new development trajectory (Hudson 1994).

As argued before, the main bottleneck is the monopolization of the major part of the regional economy by a coherent group of clans mainly interested in rent-seeking and thus has a short time horizon. Their rule is facilitated by a belief system and related social practices that help to perpetuate dominant social and economic relations in Donetsk. Paternalist rule is partly rooted in large enterprises that take care of many aspects of their worker's lives, while telling them what party to vote for. It should also be recalled that, despite the high educational level of the population of Donetsk, 96.3% of the electorate voted for candidate Yanukovich in the relatively fair re-run of the presidential elections.

The experience of a range of successful East and South East Asian emerging economies shows that the transformation of a (neo)patrimonial into a modern society and economy requires a strong state and a committed elite.

According to Evans (1995), developmental states show that state institutions must be embedded in a dense network of ties that bind them to societal allies with transformational goals. It is the delicate blend of state-autonomy and state-embeddedness that makes the difference. Evans also argues that political elites should share a common sense of purpose and direction, an *esprit de corps*. In this perspective the crucial problem in Donetsk is that public authorities are captured by local oligarchs. More generally, ex-

ecutive, legislative and judicial powers have merged in Donetsk (i.e. there is no separation of powers).

The population does not trust the institutions of the state. Corruption is omnipresent and state institutions do not deliver. The state has weakened, but has at the same time remained over-powerful, because it is able to control and block initiatives in society and economy. Enterprises cannot do anything without the support of bureaucrats. Increasingly, Donetsk in many ways resembles stagnating economies from the developing world, although recent economic growth suggests otherwise.⁶ It can be seen, among others, in an extreme centre-periphery dynamics.⁷

A breakthrough towards sustainable development can only occur through a breaking of the power of the Donetsk clan, and of the close links between clans and the public authorities. There are no easy recipes, but a precondition would seem to be a vigorous civil society and the self-organization of the population at large. The path towards sustainable development goes via a political breakthrough.

It could well be that the above account does not do justice to the myriad of initiatives that are being taken on the micro level: many partnerships between educational and other institutions in Donetsk and the West, the Micro Bank that is helping many small

⁶ In developing economies, periods of boom are regularly alternated by periods of bust.

⁷ Within the province of Donetsk, a similar centre-periphery dynamic to that in Ukraine as a whole is visible. Donetsk and Mariupol attract 90% of investments within the province, although these towns account for 31% of the total population (the province and city of Kiev together attract 22% of all investment, while their population accounts for 9.15% of the total Ukrainian population, 2001). In the city of Donetsk, the trade turnover in goods and services destined for the population is ten times higher per capita (at 110 hryvna) than in towns like Debaltsevo (18 hryvna) and Dobropole (29 hryvna), although the average salary in these small towns is higher than in Donetsk. But people in these towns can often not spend their money in their own towns, having to go to Donetsk. This in turn strengthens the centre-periphery dynamics. While the production index for Donetsk town (in 2003, with respect to 1990), was 137.4, it was 69.4 for Donetsk province (p. 92). Donetsk city attracted 67.2% of accumulated foreign direct investment in the province.

entrepreneurs with credit, some small and medium-sized enterprises that have become successful despite existing outside the clan structures, initiatives of local communities, etc. This embryonic civil society might provide the impetus for a breaking of the monopoly over political and economic power that the Donetsk clan exercises.

THE DONETSK MODEL AFTER THE ORANGE REVOLUTION

To what extent did the Orange Revolution (November/December 2004) change the situation in Donetsk? President Yushchenko noted, during a visit to Donetsk on 15 July 2005, that very little had changed there so far. Addressing a hall full of local dignitaries Yushchenko said *The [Donetsk] authorities do not understand their purpose yet; they are restoring clans and bringing back the links that discredit all of you* (*European Daily Monitor*, 19 July 2005).

Nevertheless, the new government under Tymoshenko abolished some privileges and abuses in Donetsk. Tax preferences in the framework of the Free Economic Zones (these were being concentrated in Donetsk) have been abolished, while gas prices and rail tariffs for coal transport have gone up. A gang based in Zaporizhzhya but headed by criminals from Donetsk has been arrested. It had dealt with widespread tax evasion, to the amount of hundreds of millions of hryvnas a year (*Zerkali Nedeli*, 21 May 2005). During 2004, companies from Donetsk paid 415 million hryvnas in value added tax but received 625 million hryvnas of reimbursed VAT payments (*Intelnews*, 6 June 2005). This scam contributed to the high economic growth figures for Donetsk.

On the other hand, IUD director Serhiy Taruta accompanied President Yushchenko on his visit to Germany (March 2005) and proclaimed that he had always supported Yushchenko. This seemed to reveal a split in the until then cohesive Donetsk clan. It should be recalled that Akhmetov profited most from Viktor Yanukovych being Prime

Minister: during the latter's reign, the SCM's assets doubled in size (*Ukrayinska Pravda*, 14 March 2005).

After the presidential elections of 2004, Akhmetov did not immediately side with Yushchenko, unlike Taruta of the IUD, and Boris Kolesnikov (a close partner of Akhmetov and head of the regional council) was arrested. Only in April 2005, after having spent some weeks abroad, did Akhmetov make some moves towards the new government in Kyiv, and met with President Yushchenko. Soon after this meeting he announced that he was cutting ties with Viktor Yanukovych and stopping financing his party, the Party of the Regions. Akhmetov was the main financier of this party. The new opposition parties became almost paralyzed. Nevertheless, the General Prosecutor continued to target Akhmetov and his close allies.

It seems that Yushchenko's main aim is to normalize the situation in Donetsk and to make the regional budget and regional authorities accountable to the state and not to the Donetsk clan, as the journalist Pukish-Yunko suggested (*Vysokyy Zamok* website, 24 May 2005).

The situation changed after President Yushchenko sacked Prime Minister Yulia Tymoshenko and her government (September 2005). After the split in the Orange team Yushchenko had to rely on support from his former opponents. He signed a memorandum with Viktor Yanukovych in exchange for the support of the Party of the Regions for the new government of Yekhanurov. This implied, among other things, the end of 'political oppression', the end of prosecution of those who had committed election fraud and immunity from prosecution for deputies in local councils. It also meant an end to re-privatizations, except for the re-privatization of the huge steel mill Krivorozhstal, owned by Kuchma's son-in-law Pinchuk and Akhmetov. It points to a new understanding between the elites of Eastern Ukraine on the one hand and the elites of Central and Western Ukraine on the other hand. It also creates more opportunities for the Donetsk clan to rule their region as they want.

It seems that the Donetsk model of governing society and economy cannot be considered atavistic, it is even possible that the Donetsk model will see a revival, if the new power in Kyiv fails to turn the country around, creating a state and society governed under the rule of law.

CONCLUSION

Whereas Donetsk is formally part of a parliamentary democracy and has many formal elements of a market economy in place, the actual functioning of the region's polity and economy recalls Soviet times. Neo-patrimonial social practices that are rooted in Soviet and Tsarist times are still dominant, and political and economic power is highly centralized and merged. A virtual institutional landscape exists with banks, chambers of commerce, technology parks, casino's etc., all giving the impression of a thriving market economy, but that is in fact in function of a clan economy. The informal institutional environment has proved to be very resilient, constituting the basis for a resurrection of Soviet economic practices, albeit without central planning. Crucial in the regional economy is the monopolization of the economy affairs by a cohesive group of clans that prevents outsiders from accessing resources on equal terms.

In this perspective the question of path dependent path creating emerges, although path dependence does not point to just one scenario. Crucial in any reform scenario is the strengthening of state institutions through the creation of more transparency, accountability and the rule of law, thereby ending the capture of state institutions by the Donetsk clan. Strong and democratic state institutions can only be envisaged with a vibrant civil society that acts as a countervailing power for the state and oligarchic clans. Thus far a vibrant civil society has not become visible, though it seems that networks of citizens and institutions pressing for change are emerging slowly.

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TRENDS TO REGIONAL DISPARITIES IN THE CZECH REPUBLIC IN PRE-ACCESSION PERIOD IN THE EUROPEAN CONTEXT*

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Abstract: The article identifies the main factors and trends to regional development in the Czech Republic during the pre-accession period. The scale of regional disparities within the Czech Republic is compared with those of other EU countries. The paper starts with a brief elaboration of the basic trends to regional development since the collapse of communism, then proceeds to an identification of the main factors underpinning regional development, an analysis of basic trends to regional disparities, an examination of regional disparities in the European context and an outlining of likely trends to future regional development.

Key words: regional disparities, factors of regional development, unemployment, wages, foreign investments, location of headquarters of largest firms.

INTRODUCTION: DIFFERENTIATION AND SELECTION AS BASIC TRENDS TO REGIONAL DEVELOPMENT IN THE THE POST-COMMUNIST PERIOD

Differentiation and selection could be considered two general trends to regional development in the the post-communist countries following the collapse of communism. The differentiation in regional performance is in line with a generally prevailing trend towards increasing diversity since the beginning of the transition in all major spheres and among all major subjects—individuals, the professions, industrial branches, municipalities, etc. The processes of differentiation and selection were a consequence of the re-introduction of market economy mecha-

nisms and of a democratic society in general, as well as the resulting opening up of space to individual initiative. They were also the result of the removal of the excessively redistributive policies and forced equalization pursued under communism. It is necessary to stress, however, that diversity or differences/disparities cannot be considered an altogether negative phenomenon since differences also play important positive functions in society and the economy (i.e. disparities contribute to greater specialization and hence greater efficiency, see also Hirschman 1958). Moreover, disparities also function as a signal mechanism for different subjects, in that differences also function as an indicator of potential or an incentive (for example to move or, more generally, to make a change). Consequently, disparities are a quite natural phenomena (cf. for example the development of the settlement hierarchy exhibiting

* The article is an extended and updated version of a paper published in Polish in *Studia Regionalne i Lokalne*, 2004, 2, Warsaw University.

fundamental similarities in a vast majority of countries (for more see Hampl 1999).

The second fundamental process has been that of selection, by which exchanges of position among leaders and laggards can be described. Typically, the regions which were strongholds of communist heavy industries and hence the subject of preferential treatment under communism (e.g. better provision of consumer goods to moderate some of the consequences of the 'economics of shortage' see Kornai 1979, and provision of higher wages) were among the biggest losers when their outdated economic base was suddenly exposed to international competition. On the other hand, metropolitan regions with diversified economies and a good educational structure of the labour force underwent dramatic restructuring when heavy industries were swiftly replaced by an expanding service sector, such that the population in the majority of these regions enjoyed above-average growth in salaries and a lower rate of unemployment.

To sum-up, the relatively modest inter-regional disparities the Czech Republic inherited from its period of communism (see Fuchs and Demko 1979) have swiftly been amplified during the transition. Diversified metropolitan regions have generally performed better than non-metropolitan, old-industrial and rural regions (Hampl 1996, Bachtler et al. 2000).

FACTORS IN REGIONAL DEVELOPMENT

Several principal factors underpinning regional development can be conceptualized. According to Blazek (1999), the Czech Republic has been characterized by four main factors of regional development:

- vertical and horizontal geographical positions of regions, whereby the former can be interpreted as differentiation among large cities/metropolitan areas and non-metropolitan and rural regions, (also exerting a strong influence on the level of infrastructural endowment of respective regions); and the latter described as a traditional West-East

gradient to the level of societal and economic development in line with macro-regional differentiation in Europe as a whole (for an example of empirical verification of horizontal geographical position, see Table 1)

- economic structure and its diversity (whereby more diversified regions usually have better opportunities than narrowly specialised ones)

- the quality of human resources (and especially of education and the entrepreneurial tradition)

- the quality of the environment (in that extensive devastation of that in several regions hinders their future development seriously, not only on account of the costs of remedying the situation, but also because the devastated environment discourages potential inward investors).

Dostal and Hampl (2002) identified three basic factors to regional development in the Czech Republic: vertical geographical position (i.e. the disparity between the capital city and the rest of the country), macro-geographical position in the sense of the West-East gradient (horizontal geographical position) and unfavourable specialization of the economic base of the regions. The authors argue that the relevance of these factors differs according to types of regions. While in the case of rural regions the macro-geographical position seems to dominate, in that of metropolitan areas as the most important factor is considered to be the inherited unfavourable economic structure, albeit with the macro-position also significant.

The operation of these basic factors underpinning regional development can be traced far back into history. For example, the relevance of horizontal geographical position can be illustrated in the former Czechoslovakia at the time of its creation in 1918 due to its great length in a West-East direction. Consequently, the West-East gradient to the level of development was of an extreme nature in those days, and was well captured by the first census of population in Czechoslovakia which took place in 1921. According to this census, the following rates of (partial) illiteracy were recorded (Table 1).

Table 1. The rate of (partial) illiteracy by historical lands comprising Czechoslovakia in 1921

Land	Rate of illiteracy
Bohemia	2.4%
Moravia	3.1%
Silesia	3.7%
Slovakia	15.0%
Carpathian Ukraine	50.2%

Source: Census of Population 1921

A similarly steep slope to the West-East gradient was recorded in the structure of economic activity of the population by major sectors of the economy and many other indicators. While the inter-war period (1918–1938) brought no major changes to the regional structure, the reverse is true for the period of communism started in Czechoslovakia by communist coup in 1948. The communists applied a policy of extreme equalization, to the point where several decades of the communist regime left the indicators available in those days in a highly homogeneous state (Fuchs and Demko 1979). However, the costs of this equalization were tremendous, as the country lost its international competitiveness. This can be documented by reference to a GDP per capita in Czechoslovakia that, at 380 USD in 1948, was practically the same as in Austria (400 USD that year) (Gelb and Grey 1991, quoted in Svejnar 1997). Moreover, as the GDP of the then Czechoslovakia represented an average for the disparate Czech and Slovakia lands, it is likely that the GDP in the area of today's Czech Republic was even higher than that of Austria. In contrast, in 1989, when the era of communism ended, the per-capita GDP of Czechoslovakia was only a fraction of that of Austria.

Nevertheless, under a profoundly-changed political, societal and economic environment, which also led to revitalization of the above-mentioned basic factors underpinning regional development, the old regional patterns soon emerged once more. However, all basic factors of regional development

have to be considered as basic frameworks only, in which different subjects capable of making a difference (Sayer 1992) have to operate. Therefore, obviously, examples of remarkably successful subjects located in regions less well-endowed with the above factors can be given, though these are still rather in the nature of exceptions confirming the general trends.

REGIONAL DISPARITIES DURING THE TRANSITION

UNEMPLOYMENT

As a consequence of the activation of the above-mentioned basic factors to regional development at the beginning of the transition, the Czech Republic swiftly developed into an almost textbook example of a West-East regional pattern in good agreement with the macro-regional differentiation of Europe as a whole (similar conclusions for Poland were arrived at by Lodkovska et al. 1996, and Gorzelak 1996, while Barta et al. 1997, Downes 1996 and Horvath 1997 proved the same for Hungary). This West-East polarity can be illustrated by the fact that, in the first half of the 1990s, the rate of unemployment in Moravia (eastern Czech Republic) was nearly twice as high as that in Bohemia (the western part of the country), while the most affected region was North Moravia. Nevertheless, since the mid-1990s, this pattern has been significantly modified by a rapid worsening of the economic and social situation in the old industrial region of

North Bohemia, the most afflicted Czech region in the second half of the 1990s. Another distinctive feature of the recent regional development has been a sharpening of inter-regional disparities on a micro-regional level, as a result of bankruptcies among industrial plants. This was quite a serious development, because it was accompanied by a rapid increase in the average level of unemployment (from 3.5% in December 1996 to 8.4 % in March 1999—escalated by economic crisis in the years 1997–1999, and then a further, though less steep increase in the unemployment rate up to around 10% during the years 2000–2003) (Table 2).

Empirical analyses of recent trends to regional development in the Czech Republic are provided e.g. by Hampl 1999, 2002, Blazek 1999, 2002b, and Tomes 1996, 2002. These analyses show a clearly accelerated growth in inter-regional disparities since the mid of 1990s. This can be most persuasively illustrated by reference to the development in the average rate of unemployment and of its level in the most affected district (usually Most district) in contrast to best performing district (Prague or one of its suburban districts Prague-West or Prague-East).

The data provided in Table 2 reveal that the period of an exceptionally low rate of unemployment in the Czech Republic is definitely over, and even the economic recovery since 2000 has not produced a sufficient number of job opportunities. Likewise, the massive inflow of foreign direct investment has not contributed significantly to job creation. While positive impacts on job creation predominate in the case of greenfield investments (leaving aside some replacement effects), acquisitions quite frequently entail the shedding of labour as an element of restructuring. Nevertheless, even in the latter case, one can argue that were take-overs by foreign owners not to take place, the very future of the company would be in danger. The consequent conclusion is that, without a vigorous inflow of FDI, the rate of unemployment would be even higher. (For a detailed discussion of the positive and negative effects of FDI in Central Europe see Pavlínek 2004).

Table 2. Selected statistical data for the Czech Republic

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Average unemployment (%)	4.1	2.6	3.5	3.2	2.9	3.5	5.2	7.5	8.2	8.8	8.9	9.8	10.3	9.5
District with highest unemployment (%)	9.1	6.0	8.7	7.5	7.3	9.4	12.4	15.3	16.7	21.5	21.3	21.7	23.5	22.7
District with lowest unemployment (%)	1.2	0.3	0.3	0.3	0.3	0.4	0.7	1.6	2.5	2.8	2.5	2.8	3.0	2.9
Growth of GDP (%)	-11.6	-0.5	0.1	2.2	5.9	4.2	-0.7	-1.1	1.2	3.9	2.6	1.5	3.2	4.4
Inflow of FDI (billion CZK)	n/a	n/a	19.1	25.0	68.0	38.8	85.5	109.4	202.3	192.4	214.6	277.7	72.9	114.7

Source: Czech Statistical Office, Czech Ministry of Labour and Social Affairs.

The rate of unemployment in several districts has exceeded 15% since 1998, and even 20% since 2000, a serious cause for concern. However, the roots of the regional problems are not exclusively regional but relate also to the overall economic and ethical situation in the Czech Republic, born especially by the wild way in which Czech privatization was performed in the first half of the 1990s, when the assets of privatized companies were channelled by their managers into their private firms operating in the same branch (for more see e.g. Mlcoch 2000). For this widespread behaviour of managers a term *tunnelling* was invented. Tunnelling became a means by which to gain a substantial profit and accumulate capital quickly. This short-sighted behaviour led to a series of bankruptcies of former state companies in key industrial branches and had a devastating effect on the stability of the banking sector, which had to be supported by a huge amount of public money.

Unfortunately, these facts contribute to a clear dominance of sectoral approaches to the solution of regional problems, with the result that the room for implementing relevant regional development strategies based on the initiative of major subjects of local/regional development is quite limited. The dominance of sectoral approaches could also be illustrated by the fact that self-governing regions were only reintroduced in 2001 and are from the financial point of view fully depended on transfers of state revenues and grants. Nevertheless, a positive recent feature of sectoral policies in the Czech Republic is their 'regionalization', i.e. a differentiation of the incentives offered by sectoral policies according to the conditions of particular regions. For example, the state offers investment incentives to large investors (both Czech and foreign), albeit with the key eligibility criterion (the size of the investment in financial terms) being differentiated according to the level of unemployment in the district in question. More specifically, while an investor has to invest at least 200 million CZK (6.8 million EUR) to qualify for investment incentives in 'normal' regions, in regions with high

unemployment this criterion is softened to 150 million CZK or even to mere 100 million CZK in the most affected districts. This provision effectively means that not only large, but also medium-size, investors are encouraged to invest into assisted areas with a high unemployment rate.

JOBS

The highly differentiated rate of unemployment is closely related to the development of the number of jobs in particular districts. While the period between population censuses brought a drop in the number of jobs in the Czech Republic of more than half of million (-12%), as a result of the dramatic social and economic changes, this decline was highly differentiated regionally (Figure 1). Four districts even succeeded in increasing their numbers of jobs in the face of general decline. Two of the most successful districts are Prague-West (+27.4%) and Prague-East (+11.1%), whose relative performance is attributable to unusually low numbers of job opportunities in 1991, and to an expansion of hypermarkets, shopping centres and some office developments, especially in the second half of the 1990s. The third district which countered the general trend is Mladá Boleslav (+13.9%) with its expanding VW-Skoda plant. Finally, a slight increase even in absolute terms has been recorded in Prague (+1.6%). On the other hand, the biggest losers have been districts in old industrial regions of Northern Bohemia (especially Most with 25.7%) and Northern Moravia (especially Karviná with 24.8% and Ostrava with 24.1%), that lost a significant proportion of their jobs.

However, methodological problems with compatibility of data from the two censuses (related to differences in definitions of certain categories like 'women on maternity leave', 'working students' and 'apprentices', but also to missing data—for more see Hampl 2004) make it more suitable to compare the shares of individual districts account for in the Czech Republic total for the number of jobs (see Figure 1). Such a comparison of data from the last two censuses of population

reveals, not only several expected trends, but also some surprises. Firstly, the data confirm that the old industrial regions (in North Bohemia and Moravia) are among the biggest losers. The greatest loser of all has been identified as the North Bohemian district of Most, whose share in the country's number of jobs decreased from 1.3% to 1.08% (index of change: $1.08/1.3=0.83$). On the other hand, the performance of the districts situated along the former Iron Curtain (intentionally marginalized under communism as a potential battlefield between NATO and the Warsaw Pact) was even better than expected. Between 1991 and 2001, these regions received a significant share of the foreign investments flowing into the Czech Republic and also revealed themselves as quite attractive to tourism. These factors contributed significantly to an improvement in these regions (leaving the index of change for Tachov district equal to 1.12, that for Ceske Budejovice 1.09, those for Jihlava and Cheb both 1.08, and that for Plzen-South 1.07).

Generally, therefore, the South-Western regions performed better than the North-Eastern, something that is in line with their horizontal geographical position. Surprising is the relatively high degree of internal differentiation of the Central Bohemia region, which includes the best performing district of the Czech Republic—Prague-West—which has increased its share from 0.47% in 1991 to 0.67% in 2001 (index of change 1.43), while the performance in the eastern part of Central Bohemia was rather poor. Nevertheless, the situation could be improved by the new Toyota/PSA plant in Kolín which started up production in February 2005 and will probably reach full capacity (300,000 cars a year) in early 2006.

WAGES

Average wages are another basic indicator used to measure the economic performance of particular regions, as well as the general level of wellbeing of the population. Though there are difficulties with the calculation of

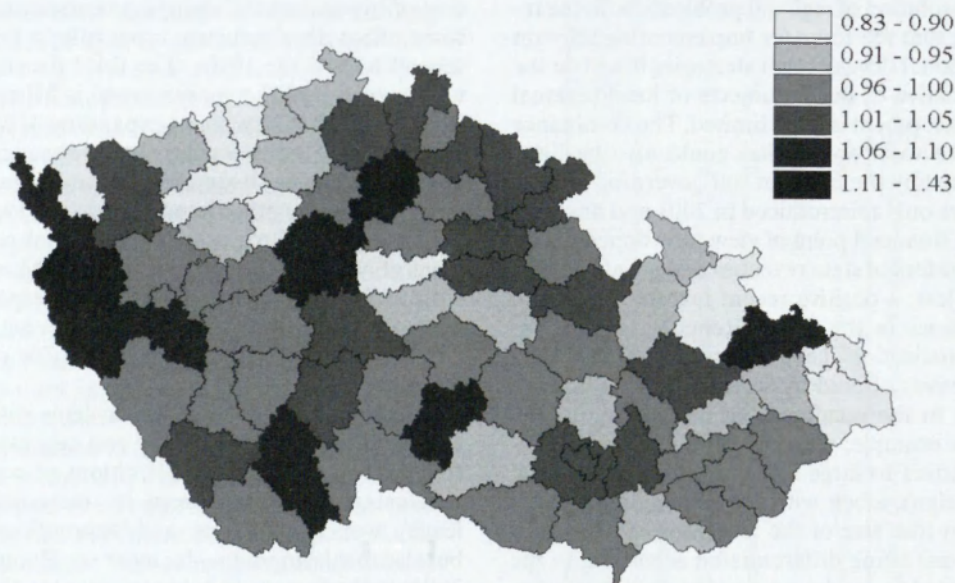


Figure 1. Shares districts take in the total number of jobs in the Czech Republic (Index of change 1991–2001)

Source: Population Censuses 1991 and 2001 (adjusted according to methodology applied by Hampel 2004)

average wages by regions, due to relatively frequent changes in methodology (in particular post 2001, when the employees of the Ministry of the Interior and Ministry of Defence were also taken into consideration), the overall picture is quite clear (Figure 2). Spatial disparities in average wages (77 *okres* as NUTS IV), regions (14 *kraje* as

that, under communism the wages in Prague were not the highest in the country (Prague was only in fourth place), while by 2000, Prague and its suburban district Prague-East were at the top. The second place of Mlada Boleslav is not a surprise due to the huge VW-Skoda plant. More surprising is the fifth place of Plzen where the traditional

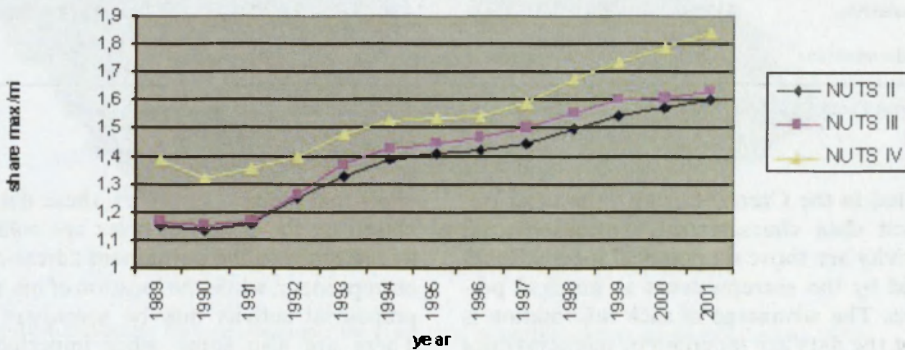


Figure 2. Development of disparities in average wages in terms of NUTS II, NUTS III and NUTS IV levels, 1989 – 2001. (Shares of maximum and minimum values)

Source: Czech Statistical Office, series 'Zamestnanci a mzdove prostredky' (Employees and wages)

NUTS III) and cohesion regions (8 NUTS II) have increased significantly since the beginning of the transition. These disparities have increased significantly during an economic crisis in the Czech Republic in the years 1997–1999. However, it would be too early to draw general conclusions. The relationship between the increase in disparities (of wages) and the overall performance of the economy needs to be examined more thoroughly and in the comparative perspective of several countries.

Table 3 illustrates the changeover of leaders and laggards according to the level of wages in the districts. While at the beginning of the transition (in 1990), 4 out of 5 districts with the highest wages were dominated by heavy industry (coal mining and related industries in the case of Ostrava, Kladno and Sokolov, and chemistry in that of the district of Litomerice), none of those districts was among the top-5 in 2000. It is also noticeable

engineering plants went through a deep crisis, but the city authorities succeeded in their active policy aimed at attracting new inward investors by making use of both the favourable geographical position and transport connections (motorway and rail connections to Germany and Prague). Plzen was the first Czech city to develop at its own cost a large industrial zone with clearly defined rules specifying the industrial branches of interest and other conditions for localization. A comparison of levels of wages in 2000 and 2004 (Table 3) shows a marked stability to the performance of the top-5 districts. On the other hand, the ratio of average wages in the best and worst-performing district reveals a slight moderation of the disparity (1.62 in 2004 compared to 1.79 in 2000).

ENTREPRENEURIAL ACTIVITY

Since information about the registration and deregistration of VAT-payers is not col-

Table 3. Top-5 districts by level of wages, 1990, 2000 and 2004 (in Czech Crowns—CZK)

District	1990	District	2000	District	2004
Ostrava	3905	Prague	18,865	Prague	22,433
Sokolov	3647	M. Boleslav	16,171	M. Boleslav	20,136
Kladno	3547	Prague-East	15,669	Prague-West	18,869
Prague	3517	Prague-West	14,633	Prague-East	18,692
Litoměřice	3510	Plzeň	14,216	Plzeň	18,676
Index max/min	1.28	Index max/min	1.79	Index max/min	1.62

Source: Czech Statistical Office. Series 'Zaměstnanci a mzdové prostředky' (Employees and wages)

lected in the Czech Republic, the most relevant data characterizing entrepreneurial activity are those on personal income taxes paid by the entrepreneurs as physical persons. The advantage of such information is that the data are recorded by municipalities as revenues from these taxes that constitute

municipal income. However, these data are biased by the fact that taxes are collected by reference to the permanent address of the entrepreneur, while the location of his entrepreneurial activity may be somewhere else. There are also some other imperfections of this indicator (the progressiveness of the

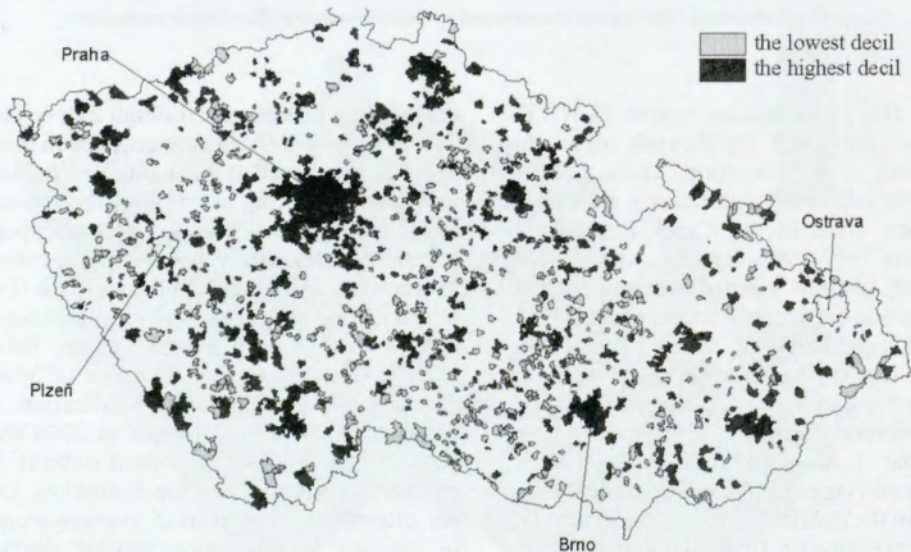


Figure 3. Intensity of entrepreneurial activity in the Czech Republic (revenues from personal income taxes paid by entrepreneurs-physical persons), average values for 1999–2000
Dark colour depicts the 10% of municipalities with the highest revenues per capita, the shadow—the 10% of municipalities with the lowest revenues per capita.

Source: data from Czech Ministry of Finance.

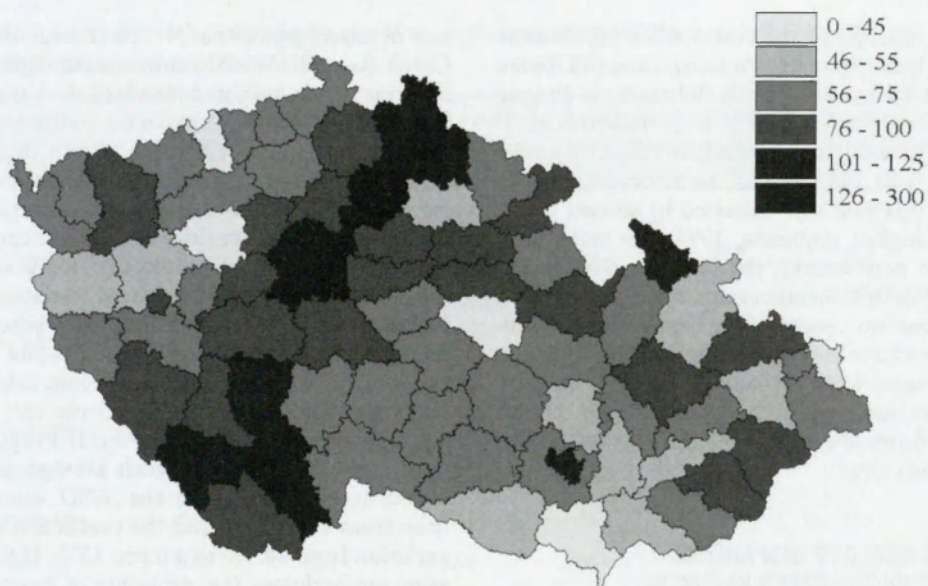


Figure 4. Revenues from personal income taxes paid by entrepreneurs (physical persons), 2000
(100% = average for Czech Republic)

Source: data from Czech Ministry of Finance.

tax system and even the speculation of some municipalities that are trying to motivate entrepreneurs to move to their constituencies formally. As a reward the municipalities promise to pay back a part of the tax in the form of direct business support. Nevertheless, these data can be considered a valuable indicator, which is, in addition, available in large territorial detail (see Figure 3).

Figure 3 reveals a clear dominance of Prague and of its suburban zone. The situation there is in marked contrast to the second largest city, Brno, whose hinterland does not exhibit any significant rate of entrepreneurial activity. This indicates the different scale of the suburbanization process in these two cities. The third largest Czech city, Ostrava, even failed to qualify among the top 10% of municipalities. A significant rate of entrepreneurial spirit was also recorded in the region of Liberec/Jablonec and Mlada Boleslav, where relatively high wages paid at the Skoda/VW plant create a strong demand to which local entrepreneurs

can respond. Also tourist destinations show highest values. In contrast, both old industrial regions—(Northwestern Bohemia and North Moravia) exhibit a lower rate of entrepreneurial activity. Nevertheless, the largest concentration of municipalities with the most limited entrepreneurial activity is recorded on the eastern edge of the Czecho-Moravian highlands, characterized by scattered settlement structure and a strong dependency on non-profitable agriculture.

Figure 4 captures the data on revenues of personal income tax per capita paid by physical persons who were entrepreneurs in 2000. In principle, the regional pattern to entrepreneurial activity is in line with that of Figure 3, which provided data at the municipal level. The performance of the Eastern part of the country (Moravia) is lower than that of Western part (Bohemia). The lowest level of revenues from this tax was recorded in two district which could be considered an internal periphery (Chrudim and Rakovník) and in the old industrial region of Most. On

the other hand, the best-performing districts are forming an axis running through Liberec and Jablonec in North Bohemia via Prague to South Bohemia (Pisek, C. Budejovice).

In comparison with 1994 (the time series starts in 1993, but as the relevance of data for this year was distorted by several methodological problems, 1994 data were used as a benchmark), the old industrial region of North Bohemia is clearly lagging behind. In contrast, some of the best-performing regions have even strengthened their position (Prague-West, Mlada Boleslav, Jablonec). Also surprising is the relatively poor relative performance of Brno—the second largest Czech city.

THE SCALE OF DISPARITIES WITHIN THE CZECH REPUBLIC IN A EUROPEAN CONTEXT

For international comparisons of interregional disparities the most frequently-used data are those on unemployment and on the regional distribution of GDP. For example, the size of interregional disparities in unemployment rate is usually measured by EUROSTAT by the weighted standard deviation (WSD), as weighted by the size of the NUTS II regions (which, in turn, is measured either by the size of the economically-active population or inhabitants). The following formula was used in this paper:

$$\text{WSD} = \sqrt{[\sum(x_i - \bar{x})^2 n_i / \sum n_i]}$$

where: x_i is the rate of unemployment in region i , \bar{x} is the average rate of unemployment, and n_i is the size of the region expressed in terms of the number of inhabitants.

Analogically, the WSD and coefficient of variation were used as measures of interregional disparities based on the regional distribution of GDP per capita.

Despite the fact that the Czech Republic, as compared with many EU-countries, is rather among the smaller ones, the interregional disparities within it are not so small. On the contrary, in terms of disparities in the

rate of unemployment at NUTS II-level, the Czech Republic would rank seventh-eighth in terms of the weighted standard deviation (WSD) and fourth in terms of the coefficient of variation (compared to the EU-16 or to candidate countries that are divided into at least four NUTS II-regions). Accordingly, for interregional disparities in GDP per capita, the Czech Republic ranks fifth for WSD and third for the coefficient of variation. However, the scale of the disparities based on regional differences in GDP per capita is very much influenced by the extreme value for Prague (148.7% of the EU-25 average, if a Czech average of only 66.5%). If Prague were excluded (and the Czech average adjusted accordingly), then the WSD would drop from 29.6 to 2.5 and the coefficient of variation from 44.5% to a mere 3.7%. If the same methodology (i.e. exclusion of Prague and corresponding adjustment of national average) were applied to measures of differentiation based on unemployment rate, the results would differ sharply. Namely, both indicators would decrease slightly (the WSD from 3.3 to 3.0, and the coefficient of variation from 45.7 to 41.7%). These diverging results are in part due to an imprecise method of measuring regional GDP in the Czech Republic, which significantly overestimates the value for Prague. In consequence, the rate of unemployment can be considered a more relevant indicator of the scale of regional disparities than GDP per capita (at least for the Czech Republic).

As regards the look at other European countries, it should be stressed that for 10 out of 16 investigated, variability measured by the coefficient of variation is higher for unemployment than for GDP (while in other countries it is vice versa).

OUTLINE OF EXPECTED CHANGES IN TRENDS FOR REGIONAL DEVELOPMENT IN THE CONTEXT OF EU ENLARGEMENT

An extensive analytical effort (e.g. Bachtler, Downes and Gorzelak 2000; Hempl 2002; Blazek 1999; and Illner 2001) makes it clear

Table 4. Interregional disparities in the rate of unemployment and in GDP per capita by NUTS II regions in the current members of the EU

Country (Number of NUTS II)	Unemployment in 2002 (in %)	Weighted standard deviation	Coefficient of variation (%)	GDP/cap. of EU average in 2001	Weighted standard deviation	Coefficient of variation (%)
Italy (20)	9	7.2	80.4	109.9	111.6	101.5
Germany (40)	9.4	6.0	64.1	110.2	27.0	24.5
Belgium (11)	7.5	3.7	48.8	117.3	43.5	37.1
Czech Rep. (8)	7.3	3.3	45.7	66.5	29.6	44.5
Austria (9)	4	1.7	42.2	122.8	24.6	20.1
France (26)	8.7	3.6	41.7	115	32.5	28.2
Spain (18)	11.4	4.4	38.7	92.4	20.2	21.9
Hungary (7)	5.9	1.9	32.1	56.5	21.4	37.8
Finland (6)	9.1	2.9	31.3	114.1	25.7	22.5
U. Kingdom (37)	5.1	1.5	29.7	115.7	42.6	36.8
Portugal (7)	5.1	1.4	26.8	77.6	19.3	24.9
Slovakia (4)	18.7	4.1	22.1	49	22.4	45.7
Sweden (8)	5.1	0.9	17.3	116.5	22.2	19.0
Poland (16)	19.9	3.3	16.7	44.9	11.2	25.0
Netherlands (12)	2.8	0.4	15.8	124.3	17.9	14.4
Greece (13)	10	1.6	15.7	73.7	10.0	13.5

Source: The data on regional rates of unemployment and on GDP per capita were published in the 3rd Cohesion Report (A New Partnership for Cohesion), Brussels 2004. Author's own calculation of measures of variation.

Notes: Countries consisting of less than 4 NUTS II regions are not shown in the table; countries are arranged in descending order by the coefficient of variation of the rate of unemployment.

that the basic factor in regional development during the transition was the vertical geographical position, i.e. a qualitative hierarchy of regional centres. It seems realistic to expect that the role of the vertical geographical position of cities and regions will continue to be a dominant factor behind regional development after the accession also. The strength of regional centres can be indicated either by the location of headquarters of the largest firms or by the concentration of producer services (for the 200 largest firms and selected business services in the Czech Republic, see Table 5).

The data in Table 5 are clear in showing a strong concentration of headquarters of the largest firms in Prague and other major cities, that is in line with the vertical geographical position of the regions. Moreover, a comparison of the data for 1994 and 2003 reveals a strengthening of Prague's position. An interesting feature of the changes in the regional distribution of headquarters (HQs) of the largest firms is the gradual improvement in the position of regions located along the former Iron Curtain. Specifically, these regions and especially their major cities (like Ceske Budejovice and Jihlava) succeeded in

Table 5. Location of headquarters (HQ) of largest firms in the Czech Republic in 1994 and 2003 (shares of different types of region in %)

Administrative units and their number	HQ of 200 largest firms			HQ of 500 largest firms		
	1994	2003	Index of change	1994	2003	Index of change
Prague (1)	33.5	43.5	1.30	25.0	28.6	1.14
Regional capitals (13)	29.0	25.0	0.86	27.0	23.0	0.85
District capitals (58)	15.0	12.0	0.80	21.0	20.4	0.97
Other locations	22.5	19.5	0.87	27.0	28.0	1.03
Total	100.0	100.0	—	100.0	100.0	—

Source: adapted from Drobny (2005).

attracting new HQs. This trend can be interpreted as a 'correction' of deformed development under the communist regime, when major industrial plants were located as far away from the Iron Curtain as possible for geopolitical and military reasons. For detailed analysis of the time-series to the development of regional distributions of HQs of the largest firms, see Blažek 2002b or Drobny 2005.

By contrast, the role of the second type of geographical position (the horizontal one reflecting a traditional West-East gradient) would rather be expected to weaken in the future. The role of both types of geographical position can also be illustrated by regional differences in the location of foreign companies as measured by the number of foreign plants relativized by population size of the respective regions. (In contrast, the volume of invested capital reveals quite a different picture, as this depends mostly on the spatial distribution of privatized companies). Two

basic motives for FDI to locate in foreign countries can be invoked (Dunning 1994). The first is market penetration leading foreign companies to locate predominately in the regions with the highest market potential (high purchasing power, an opportunity for contacts with the prime customer, and a density of information), i.e. the metropolitan areas. Therefore, this motive mostly follows the vertical geographical position of the centres and regions. Such a motivation usually applies to the firms operating in the services sector. In contrast, the locational pattern of firms guided by the low-cost motive is mostly in line with the horizontal geographical position (Blažek and Uhlíř 2002). A simplified scheme of locational preferences of foreign companies is presented in Table 6.

The regional distribution of FDI in the Czech Republic is depicted in Figures 5 and 6. The West–East gradient (horizontal geographical position) to the locational pattern is clearly discernible for foreign investments

Table 6. Simplified scheme of locational preferences of foreign companies

Main motive	Prevailing sector of economy	Typical location
Market penetration	Services	Metropolitan areas
Low costs	Manufacturing	Non-metropolitan or peripheral areas

Source: adapted from Blažek and Uhlíř 2002

in both manufacturing and the services sectors. However, the vertical geographical position seems much more important in the case of foreign investment into the services sector, as Prague and Brno acquired about 2/3 of it. The year 1998 has been selected to illustrate a gradual weakening of the role of the West-East gradient during the transition. While in the first transitional years, a nearly textbook model of the West-East pattern had been developed (for 1994 data see Blázek 1996), by the end of the 1990s and especially post-2000, the West-East pattern had become less and less pronounced.

A strong concentration of foreign companies in the manufacturing sector in the Czech regions along the German (especially Bavarian) and Austrian borders can be attributed to a sudden opening of borders between two systems operating on quite different price levels. Investments are frequently made by medium-sized or even small firms that are making use of this one-off opportu-

nity. Since an activity motivated by low cost is predominately of short- to medium-term duration, it does not necessarily present itself as a good development opportunity for these regions. (For locational pattern of FDI into other CCs see e.g. Gorzelak 1996 or Turnock 2001).

CLOSING REMARKS

While the qualitative hierarchy of regional centres will most likely continue to be the basic factor behind regional development in the future, another factor of secondary significance can be identified, i.e. a more profound differentiation on the micro-regional and local levels (Blázek 1999). This will result from the establishment of new spatial forms of regional development such as the development axis, clusters or even sometimes 'non-spatial' networks. The creation of these new forms of spatial organization

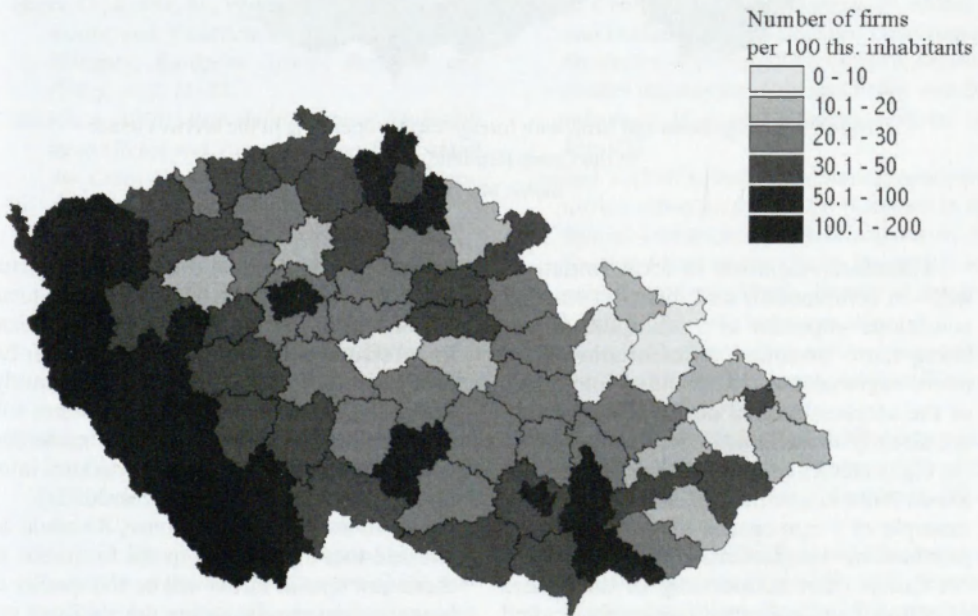


Figure 5. Foreign firms and firms with foreign capital operating in the manufacturing sector in the Czech Republic, July 1998

Source: Blázek 1999.

of production will depend primarily on the initiative of local subjects in both private and public sectors, but will also be influenced by differences in the external conditions of particular regions and localities.

process) by the wide-spread use of modern communications technologies and by the growing geographical mobility of people, facilitated also by the construction of new infrastructure. All these changes will facili-

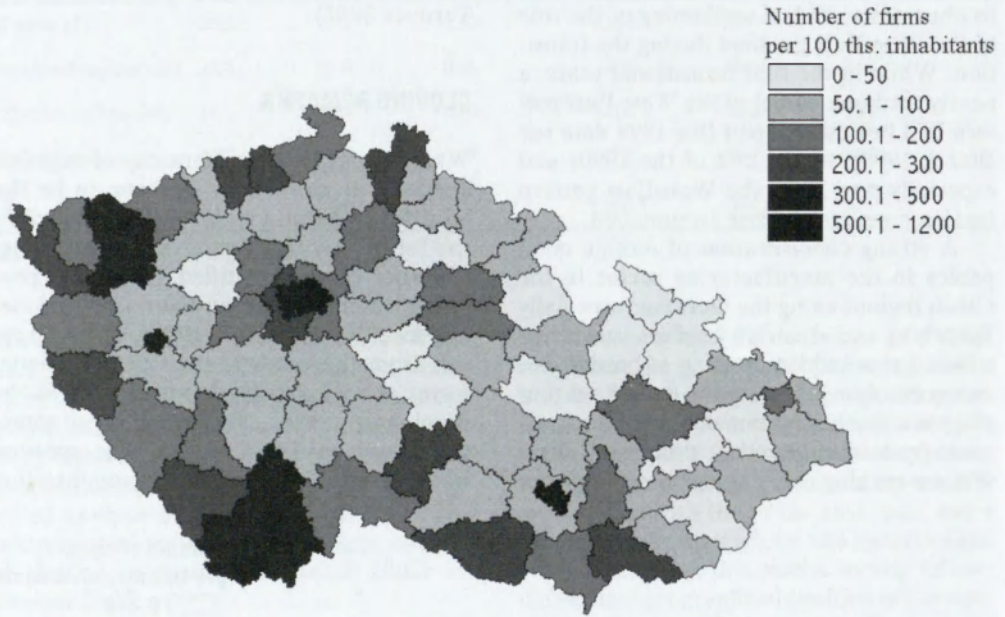


Figure 6. Foreign firms and firms with foreign capital operating in the services sector in the Czech Republic, July, 1998

Source: Blazek 1999.

Therefore, variation in local initiatives will—in combination with different starting conditions—operate as a multiplier stimulating more profound differentiation on a micro-regional level. The embryonic forms of the aforementioned new spatial patterns are already identifiable in the Czech Republic, e.g. a cluster of some of the suppliers for Skoda Auto in and near Mlada Boleslav. An example of a non-spatial network might be provided by the association of eight historical Czech cities cooperating in the sphere of cultural and congress tourism and called ‘Czech Inspiration’.

The significance of these new forms will be enhanced in the future (in particular within the framework of the integration

tate mutual contacts and enhance opportunities for cooperation. The ability of local subjects to form or join these new organizational structures will thus influence their future trajectory of development significantly. While the development axes or clusters will be embedded locally, they will be more and more connected to (or even integrated into) international structures (Blazek 2002a).

From the policy perspective, it should be stressed that a vital asset in the formation of these new spatial forms will be the quality of human resources, including the ability to cooperate as well as the formation of an atmosphere of commitment, professionalism and optimism (see Hirschman 1958, Krugman 1991). These assets are in principle non-mo-

bile, and are almost exclusively dependent on the bottom-up approaches (see also Malmberg 1997, MacKinnon, Cumbers and Chapman, 2002). Thus, a new opportunity opens up before local and regional development strategies in the Czech Republic, strategies which have up to now been one-sidedly oriented towards constructing technical infrastructure.

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THE ECONOMIC PERFORMANCE AND STANDARD OF LIVING OF POST-COMMUNIST EUROPEAN COUNTRIES SINCE 1989: FACTORS AND PROCESSES BEHIND

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Abstract: A statistical analysis shows that, since 1989, the economies of post-communist countries in Central Europe have experienced a narrowing of the gap as regards competitiveness and standard of living in comparison with the EU-15. This is in contrast to many post-Soviet and Balkan countries. These divergent trends may be accounted for by reference to early economic reforms, political stability and the old cultural divide in Europe. It is argued that foreign migrations and public attitudes to change have also been important. On the whole, the initial level of economic development has been less significant as a factor than local social and political conditions, both pre-communist and early post-communist ones.

Key words: post-communism, transition, development, economic performance, Central and Eastern Europe

INTRODUCTION

It has been more than fifteen years since the sweeping changes of the centralized command economies of Central and Eastern Europe (CEE) began. There is continuous debate on the nature of these processes and the assessment of their economic and social effects. The profound diversity of the discussed countries makes this a difficult task. At the same time, there is a widespread belief in the wisdom of treating them as a group of 'post-communist' countries that share certain characteristics. Bradshaw and Stenning (2004: 1) emphasize that the economies of Central and Eastern Europe are united not just by their common heritage, but very much 'by a set of common development challenges'. This makes a comparison

of their economic performance since 1989 even more interesting.

The transformation of Central and Eastern European societies is a multidimensional process, the consequences of which are seen in all domains of human life. Sztompka (2003) writes about a shock of multiple transformation, where people face technological modernization and its social effects in parallel to the (re)introduction of liberal democracy, the transition to a market economy, globalization and, in some cases, European integration. The main focus here is on the economic dimension of changes at the national level, i.e. comparison of countries. Two main aspects of the performance of Central and Eastern European countries are discussed: competitiveness and standard of living.

The primary aims of the paper are to evaluate this performance and single out salient factors and processes behind the revealed differences. This is based on statistical analysis of selected indicators and extensive literature review.¹ Various categories of underlying factor can be distinguished in this context. First, there are political, economic, social, and cultural phenomena influencing divergent performance of CEE countries. Second, in line with an approach based on the perspective of time of appearance, we can identify: pre-communist, communist, and post-communist. Finally, we may recognize local (national), European, and global factors in relation to the geographical scale on which they operate.

There are some important limitations to the statistical analysis of determinants of economic performance of countries based on regression models. There are only 18 countries considered, their number being even smaller in the case of some variables, because of missing data.² It is not possible to compile data for the same year for all the variables and countries. As there are also difficulties in satisfactory measurement of some important factors, dummy variables have to be used. Statistical analysis is here carried out for selected determinants, the results of earlier studies verifying the influence of certain phenomena are also used, together with other research concerned with the factors and mechanisms underpinning CEE transformations.

The discussion of factors may allow further questions to be considered. Firstly, how far can the transformation processes be conceptualized as transition, modernization or Europeanization? Secondly, in the spatial perspective, to what extent can the situation be interpreted in terms of stable core and periphery relationships, e.g. Western Europe vs Central and Eastern Europe, the 'winners'

and the 'losers' among the latter. Here there is an important further practical question regarding the role of local agency.

The paper is divided into three parts. In the first, the dynamics to competitiveness and the standards of living of post-communist European countries since 1989 are analyzed, and compared with the EU-15 on the basis of a set of statistical indicators. The second part then focuses on a discussion of various factors that may account for the divergent performance of CEE countries. The concluding section attempts to interpret post-communist transformation processes and underlying factors in a broader perspective, as regards the nature of the processes of change, the importance of economic vs non-economic factors, and external (global, European) vs internal (national) determinants of transformation.

COMPETITIVENESS AND STANDARD OF LIVING COMPARED TO THE EU-15, 1989–2004

The starting point for the transformation of the communist economies was a relatively low level of economic development and poor standard of living vis-à-vis the rest of Europe. What is more important, the countries of Central and Eastern Europe represented unsustainable economic structure: they were largely over-industrialized, energy-intensive, technologically backward, and marked by a dominance of large state-owned enterprises and a limited number of SMEs, as well as exports based on simple products and widespread ecological disaster. A huge agricultural population was typical of many countries. They were also relatively isolated from the broader European economy, showing weak trade linkages with Western Europe. This was accompanied by an education system oriented towards producing manual workers, limited tertiary educational opportunities, deficient social institutions and a lack of local and regional government.

The economic and social trends in Central and Eastern Europe since 1989, as presented

¹ An earlier version of this paper was presented at the Fifth European Urban and Regional Studies Conference *Space, places and flows in the new Europe* at Pułtusk, Poland, in September 2004.

² In addition, Bosnia & Herzegovina is taken into account in the case of three indicators of standard of living.

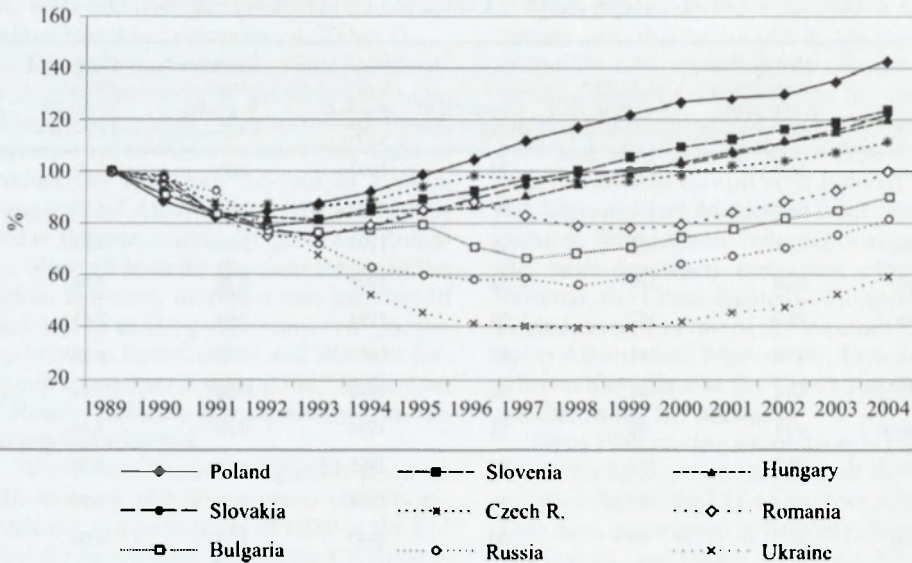


Figure 1. Real Gross Domestic Product of selected Central and East European economies, 1989–2004
 Source: author's calculations based on Eurostat, OECD and UN Statistic Division.

in the reports of international organizations (OECD 1999; World Bank 2002; EBRD 2004), have been discussed by many authors, e.g. Offe (1997), Dunford and Smith (2000), Bradshaw (2001), Falcetti et al. (2002), Turnock (2003), Gros and Steinherr (2004). They are analyzed here using two groups of statistical indicators: the first group of five indicators is meant to encapsulate the scope of and structural components to change in national economies, and may be described as reflecting their broadly understood competitiveness; a further five variables are to measure the standard of living. Tendencies in post-communist economies in terms of each of the ten indicators are compared with similar trends for the fifteen 'old' members of the EU,³ which are used as a benchmark.

GDP per capita at purchasing power parity is the most widely used measure of economic performance. The ratio of the most to the least developed Central and East Euro-

pean economies in this respect exceeds 7:1. Slovenia and the Czech Republic represent 77 and 65% of the GDP of the EU-15 in 2004, Moldova and Bosnia & Herzegovina only 11–12%.

Between 1989 and 2004, a real increase in GDP per capita has been achieved by 11 out of 19 CEE countries. However, only Poland's and Albania's growth was faster than that of the EU in this 15-year-period. All the post-communist countries experienced a considerable decline in GDP in the early shock phase of the transformation (Figure 1), followed by economic growth, which is now a universal feature in the region. One may seek a J-shaped pattern of adjustment here. The differences among the CEE countries lie in how deep and prolonged the decline was, when the economy began to recover and what the growth rate is (Table 1). If we compare this rate with the compound growth rate in the EU 1991–2004 (2.0%), we can see that it was higher in 7 CEE countries: Albania, Poland, Slovenia, Slovakia, Hungary, Croatia and Estonia, in all of which growth

³ Unless stated otherwise, all references to the EU in the following analysis refer to the EU-15.

Table 1. Gross Domestic Product and its growth in Central and East European countries, 1989–2004

Country	GDP per capita at purchasing power parity (EU-15 = 100)	Real GDP growth in 2004 (1989 = 100)	Lowest GDP (1989 = 100)	Year of lowest GDP	Compound annual % growth 1991–2004	Compound annual % growth 1995–2004
Slovenia	76.7	124	79	1992	3.06	3.69
Czech R.	65.3	111	87	1992	1.88	1.88
Slovakia	53.1	122	75	1993	2.98	4.23
Hungary	52.8	120	82	1993	2.70	3.84
Estonia	49.7	107	64	1994	2.03	5.45
Poland	43.8	142	82	1991	4.31	4.15
Latvia	40.2	86	51	1995	-0.52	5.99
Lithuania	40.1	88	54	1994	-0.30	5.09
Belarus	39.5	113	63	1995	1.16	6.59
Russia	36.4	81	56	1998	-0.98	3.36
Croatia	34.5	96	60	1993	2.11	4.04
Romania	31.9	100	75	1992	1.51	1.83
Bulgaria	27.8	90	67	1997	0.59	1.35
Ukraine	20.6	59	39	1999	-3.02	2.82
Albania	20.3	126	60	1992	5.26	5.07
Macedonia	19.7	84	71	1995	0.00	1.96
Serbia & Montenegro	19.0	54	41	1993	-3.08	2.29
Bosnia & Herzegovina	11.5	n/a	12	1994	n/a	14.18
Moldova	10.6	44	33	1999	-4.47	1.60
EU-15	100.0	135	100	1989	1.98	2.18

Source: author's calculations based on Eurostat, OECD and UN Statistic Division.

began in the first half of the 1990s. In the last decade 1995–2004, faster growth than in the EU (2.2%) was found in the majority of CEE countries, half of them growing at a rate exceeding 4% annually.

The observation of changes in GDP has to be augmented with an analysis of other measures, which reflect structural changes in the economy.⁴ The share of machinery and

transport equipment in exports may indicate capabilities as regards the manufacturing of high value-added products. Since 1990 there has been significant progress in this domain in half of the CEE economies, most spectacularly in Hungary and Slovakia. In these two countries and the Czech Republic, this share exceeds the EU level now, while it is close to this level in Poland and Slovenia (the exports structure of Slovenia was similar in 1990). All these economies are strongly integrated with Western Europe, to which their exports are directed. At the same time, the commodity structure of the exports of Rus-

⁴ GDP figures underrate the economic activity in countries with a considerable shadow economy, which is estimated to amount to 38% of the officially reported GDP on average in transition economies, in comparison to 17% in the OECD (Schneider 2002).

sia, Ukraine, Romania, Bulgaria and other Balkan states has deteriorated (Table 2).

If we take into account labour productivity in manufacturing as measured by value added per employee, we can see an almost universal improvement since 1992.⁵ Labour productivity has risen 2.5-fold in Poland, Hungary and Albania, and has nearly doubled in Estonia, Latvia, Bulgaria and Romania. Slovenia remains the clear leader in the region. However, despite a vast increase in productivity in the post-communist era, the gap between East-Central and Western European economies is substantial;⁶ in the case of Russia, Belarus, and especially Ukraine the gap has widened.

While there has been negligible progress with research and development (R&D) expenditure as a percentage of GDP in the EU since the early 1990s, most of the CEE countries have fallen behind even further. CEEs are generally characterized by a relatively high share of agricultural employment, except in the case of Slovakia, the Czech Republic, Hungary, Estonia and Serbia & Montenegro. It has dropped in most of the countries, while a different trend has been observed in Romania, Bulgaria and probably some other Balkan states.

The end of communism brought unemployment to the region. In the mid-1990s the unemployment rate exceeded the EU level in every second CEE country. By 2004 it had been reduced in the EU by one-fourth, with only Slovenia, Hungary, Romania and Belarus enjoying a lower level.⁷ Joblessness is a serious problem in some medium-developed societies with a relatively young population—Slovakia and Poland, and even more so in the least-developed Balkan countries, i.e. Bosnia & Herzegovina and Macedonia.

The effects of the economic transformation can also be sought in the domains of health, education and the ownership of durable goods. An advance in life expectancy and infant mortality occurred between 1989 and 2003 in most of the CEE region, with the notable exception of Belarus, Russia, Ukraine and Moldova (Table 3). The greatest improvement was experienced by the more-developed countries, especially Slovenia, the Czech Republic, Hungary and Poland, as well as two of the least-developed ones: Albania and Macedonia. Infant mortality in Slovenia and the Czech Republic is now below the EU average.

Since 1989, student enrolments in tertiary education have grown faster in all the CEE societies than in the EU, apart from Albania. They have quadrupled in Hungary, Romania and Poland, and tripled in Latvia, Ukraine and Slovenia. This shows both the underdevelopment of higher education under communism, and the growing educational aspirations in these societies. New EU members, excepting the Czech Republic and Slovakia, have higher student enrolments than the EU-15 now, and the same is true of Ukraine.⁸

There has been an all-embracing rise in car ownership in the CEEs exceeding the increase in the EU in the years 1989–2003. The most conspicuous growth has taken place in Romania, Latvia and Lithuania. Still, the number of cars per 1000 of population is below the EU average even in Slovenia.

To sum up, the comparison of tendencies in the post-communist economies with the EU-15 trends and levels reveals profound divergence among the CEE countries. There are six countries that have achieved considerable progress, as is shown by their better performance in relation to the EU trends since 1989 in the majority of the examined phenomena.

⁵ Data for a few countries are not available.

⁶ The contrast is smaller, if purchasing power parity is used in comparisons.

⁷ The relatively limited unemployment in the former Soviet Union to some extent reflects retention of labour in firms with low, irregular pay and low productivity (Clarke 2002). Specificity of employment and unemployment issues in the CEEs is discussed by Rainnie, Smith and Swain (2002).

⁸ One should bear in mind limitations that stem from the varying nature and different definitions of the analyzed phenomena in particular countries, e.g. tertiary education, unemployment and agricultural employment, measurement difficulties and a certain unreliability of data, especially in the early years of transformation. It is also easier to reach a high growth rate, when the initial level is low, compared with countries, which have achieved a better situation earlier.

Table 2. Selected indicators of competitiveness of Central and Eastern European economies and their changes, 1989-2004

	GDP per capita at PPP in 2004 (\$)	% machinery & transport equipment in exports in 2003	manufacturing value added per employee ('000USD) in 2002	R&D expenditure as % of GDP in 2003	% agricultural employment in 2003	Real GDP per capita in 2004 (1989 = 100)	% machinery & transport equipment in exports in 2003 (1990 = 100)	manufacturing value added per employee in 2002 (1992 = 100)	R&D expenditure as % of GDP in 2003 (1992 = 100)	% non-agricultural employment in 2003 (1992 = 100)
1 Slovenia	21 831	36.5	21.2	1.53	10.9	124	96	154	75	100 ^a
2 Czech R.	18 578	50.2	14.0	1.35	4.5	113	133	135	142 ^l	107
3 Slovakia	15 128	47.5	11.1	0.57	4.4	120	211	174	63 ^b	106 ^b
4 Hungary	15 035	60.8	16.9	0.97	5.8	123	238	246	92	106
5 Estonia	14 148	29.2	11.0	0.77	6.1	124	147	193	133 ^m	111
6 Poland	12 472	37.7	13.8	0.59	18.4	141	144	265	91 ^l	109
7 Latvia	11 444	9.0	9.6	0.39	13.4	99	60	192	66	108
8 Lithuania	11 411	25.9	7.4	0.68	17.8	94	106	n/a	131 ^b	104 ^l
9 Belarus	11 235	23.2	4.1	n/a	15.7	117	n/a	126	n/a	108
10 Russia	10 364	5.9 ^c	7.2	1.24 ^a	9.7	84	72 ^c	120	87 ^f	107
11 Croatia	9 815	29.2	18.0	1.12 ^a	16.5	102	122	161	n/a	104 ^k
12 Romania	9 068	21.2 ^a	6.7	0.40	34.1	107	73 ^d	192	82 ^m	98
13 Bulgaria	7 917	13.0	5.9	0.50	25.9	106	73	194	30	94
14 Ukraine	5 871	12.3 ^c	4.5	1.26	18.8	64	84 ^e	66	n/a	103
15 Albania	5 770	3.5	9.4	n/a	57.0	133	250	254	n/a	131 ^b
16 Macedonia	5 621	5.9	8.2	n/a	22.0	85	65	134	n/a	n/a
17 Serbia & Montenegro	5 398	11.7	n/a	0.50 ^b	3.5	53	47	n/a	n/a	102
18 Bosnia & Herzegovina	3 285	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
19 Moldova	3 022	6.0 ^a	4.3	n/a	42.9	44	n/a	n/a	n/a	n/a
EU-15	28 469	41.5	61.6	2.00	4.0	128	109	133	104	102

Notes: ^a 2002; ^b 2001; ^c 2000; ^d 1990–2002; ^e 1990–2000; ^f 1991–2002; ^g 1993–2003; ^h 1994–2003; ⁱ 1995–2003; ^k 1996–2003; ^l 1997–2003; ^m 1998–2003
 underlined values indicate trend more positive than the EU-15 trend

Source: author's calculations based on statistics from Eurostat, the OECD, the UN Statistical Division, the UNIDO and national statistics.

Table 3. Selected indicators of standard of living in Central and Eastern European countries and their changes, 1989–2004

	Unemployment rate in 2004	Life expectancy in 2003	Infant mortality per 1000 live births in 2003	Students in tertiary education per 10000 persons in 2003	Motorcars per 1000 persons in 2003	Unemployment rate in 2004 (1995 = 100)	Life expectancy in 2003 (1989 = 100)	Infant mortality per 1000 live births in 2003 (1989 = 100)	Students in tertiary education per 10000 persons in 2003 (1989 = 100)	Motorcars per 1000 persons in 2003 (1989 = 100)
1 Slovenia	5.8	76.9	4.0	437	446	78	105	49	286	154 ^d
2 Czech R.	8.2	75.3	3.9	281	362 ^b	200	105	39	246 ^d	155 ^a
3 Slovakia	16.9	74.0	7.9	294	242 ^a	129	104	59	245 ^d	147 ^b
4 Hungary	6.1	72.6	7.3	385	274	109	104	46	405	163
5 Estonia	8.1	71.3	6.8	470	320	84	101	46	168 ^d	227
6 Poland	18.1	74.7	7.0	519	294	136	105	44	390	231
7 Latvia	9.5	71.4	9.4	511	280	48	102	83	301	311
8 Lithuania	9.2	72.2	6.8	378	336	54	101	64	202	280
9 Belarus	3.1 ^a	68.6	13.0	343	145 ^c	115 ^a	96	108	201	259 ^b
10 Russia	8.2 ^a	66.4	16.0	294 ^c	140 ^c	91 ^a	96	88	152 ^c	237 ^b
11 Croatia	19.2	74.1	7.0	274	291	109	102	60	185 ^d	174 ^d
12 Romania	6.2	71.2	16.7	296	136 ^b	78	102	62	417	302 ^d
13 Bulgaria	12.0	72.1	12.3	292	251 ^c	76	100	85	167	178 ^c
14 Ukraine	9.1 ^a	68.2	15.0	511	106 ^c	163 ^b	97 ^d	115	299	168 ^b
15 Albania	14.6	76.0	18.0	139	43	111	105	58	139 ^d	264 ^c
16 Macedonia	37.2	73.9	11.3	234	148 ^c	102	104 ^d	31	180 ^d	130 ^b
17 Serbia & Montenegro	15.2 ^a	73.4	8.7	242 ^c	202 ^c	62 ^a	102 ^d	30	167 ^b	162 ^c
18 Bosnia & Herzegovina	44.0 ^a	74.0	14.0	n/a	31 ^c	113 ^d	103	92	n/a	n/a
19 Moldova	8.1	68.1 ^b	26.0	246	56 ^c	81 ^m	99 ^d	126	194	n/a
EU-15	7.7	78.7	4.4	361	498	76	104	58	157	134

Notes: ^a 2003; ^b 2002; ^c 2001; ^d 1989–2002; ^e 1989–2001; ^f 1990–2003; ^g 1990–2002; ^h 1990–2001; ⁱ 1993–2003; ^j 1995–2003; ^k 1997–2003; ^m 1999–2004
underlined values indicate trend more positive than the EU-15 trend

Source: author's calculations based on statistics from Eurostat, the OECD, the UN Statistical Division, the UNICEF and national statistics.

The Czech Republic, which is ranked second in the CEEs in terms of per capita GDP, surpassed the EU in most domains, except for GDP growth and the fall in unemployment. Also Poland outshone the EU in terms of 8 out of 10 indicators, without R&D expenditure and unemployment. Three other moderately-developed economies: Hungary, Estonia and Slovakia, together with one of the outsiders—Albania, outdid the EU in 3 or 4 indicators of competitiveness and in 3 or 4 measures of the standard of living. The common features of these economies are major positive changes in the structure of exports and a considerable improvement in labour productivity in manufacturing (although at a low level in Albania). The continuous economic growth exceeding the EU-15 rate leads to a narrowing of the gap in GDP per capita now, although, due to a decline in the early 1990s, only two countries—Poland and Albania—have managed to catch up in comparison to the 1989 level so far.

Another group of four CEE countries performed better than the EU trends in terms of 5 out of 10 indicators. Slovenia strengthened its leading position in terms of standard of living, but showed moderate progress in competitiveness, surpassing the EU in labour productivity only (with nine CEE countries doing better) and falling down in exports structure. Two other new EU members—Latvia and Lithuania—belong to this group, along with Croatia. Economic growth started here later than in Slovenia, so they are just reaching the GDP level of 1989 now.

Other CEE economies have shown predominantly negative tendencies in their competitiveness. The commodity structure of exports deteriorated in all these countries, and the increase in labour productivity in manufacturing did not match the EU trend, except in the cases of Bulgaria, Romania and (partly) Macedonia. Several countries have retained a sizeable agricultural population. GDP per capita is well below the 1989 levels, in Ukraine by as much as 36% and in Serbia & Montenegro and Moldova by about 50%; Belarus, Romania and Bulgaria are excep-

tions here. An improvement in relation to the EU has taken place in education and car ownership, but not necessarily in health. Some of these countries could be categorized as medium-developed economies at the beginning of the transformation, e.g. Russia, Serbia & Montenegro; others are among European outsiders, e.g. Moldova, Macedonia and Bosnia & Herzegovina. The new EU candidate countries—Bulgaria and Romania—have recently revealed more positive tendencies.

FACTORS UNDERLYING DIFFERENT TRENDS IN THE CENTRAL AND EASTERN EUROPEAN ECONOMIES

We may now examine major phenomena and processes which can account for the deep differences in the economic performance of the post-communist countries. The discussion draws upon numerous studies, supported by multivariate regression analysis of selected indicators. Special emphasis is placed on factors, whose role is in dispute or played down. The discussed factors are presented in Table 4. Economic determinants are considered first, followed by political and institutional factors, and finally social and cultural ones.

There is controversy over the importance of initial economic conditions, the level of development at the start of the transformation in particular. The convergence hypothesis suggests that the less-developed economies should grow faster. However, the opposite trend has been found among transition countries (Campos 2001), especially if 25–27 post-communist economies, including all the post-Soviet states, are taken into consideration: stronger economies perform better. If analysis is confined to 18 European countries considered in this paper, neither initial per capita GDP, nor any of the discussed structural features of CEE economies at the onset of transformation, prove to be significant variables in the model explaining 1989–2004 GDP growth. The picture is still different when only the 10 countries for which a complete set of data is available, are

Table 4. Potential factors underlying the economic performance of Central and Eastern European countries since 1989

Domain	Factors	Time (origin)	Geographical scale
Economic	initial level of development	pre-communist	local
	economic structure	pre-communist	local
	macroeconomic stability	communist	local
	export orientation	communist	European
	economic linkages with the West	communist	global
	size of domestic market	post-communist	local
	foreign direct investment	post-communist	global
	growth of indigenous private sector	post-communist	local
Political and institutional	long-term democratic tradition	pre-communist	local
	relatively open/strict system under communism	communist	local
	political breakup of the country	post-communist	local
	military conflict	post-communist	European
	internal political stability and predictability	post-communist	local
	early and thorough institutional reform	post-communist	local
	EU aspirations and requirements	post-communist	European
local government and NGOs	post-communist	local	
Social and cultural	work ethics	pre-communist	local
	public attitudes and activity	pre-communist	local
	international contacts through migration	pre-communist	global
	level of education and labour skills	communist	local
	entrepreneurship	post-communist	local
Geographical proximity to the EU		post-communist	European
Natural resources		pre-communist	global

analyzed.⁹ Relatively low GDP per capita in 1989 and R&D expenditure appear as significant determinants contributing to economic growth (in congruence with the convergence hypothesis), if manufacturing productivity and the share of non-agricultural employment are controlled; the latter two reinforce growth (Table 5).

If changes in the structural features since 1990 are treated as explanatory variables in the model, progress in manufacturing productivity becomes a major factor in GDP growth, with moderate impact of improvement in commodity structure of exports.

⁹ They are seven new EU members, except for Lithuania, together with Romania, Bulgaria and Russia.

This is even more evident in the model of 1991–2004 GDP increase,¹⁰ in which changes in manufacturing productivity and the commodity structure of exports are significant factors (Table 5).

There are other economic factors, which may be put forward as determinants of output growth: the size of a domestic market (measured by population or GDP), export orientation, foreign direct investment (FDI), and local entrepreneurship. None of

¹⁰ GDP trends 1989–2004 and 1991–2004 are closely correlated, so the models of GDP growth in these two periods are generally similar and hence not reported here. The distribution of GDP growth 1995–2004 differs, its correlation with GDP change in the entire period 1989–2004 is lower (0.442), and not significant statistically.

Table 5. Economic determinants of GDP growth in Central and Eastern European countries since 1989

Explanatory variables \ Dependent variable	Per capita GDP growth 1989–2004	Per capita GDP growth 1989–2004	GDP growth rate 1991–2004
GDP per capita at PPP 1989	-0.014 (0.002) 0		
Manufacturing value added per employee 1992	14.352 (1.403) 0		
R&D expenditure as % of GDP 1992	-28.559 (4.406) 0		
Share of agricultural employment 1992	-1.622 (0.385) 1		
Change in manufacturing value added per employee 1992–2002		0.224 (0.088) 3	0.022 (0.008) 2
Change in share of machinery and transport equipment in exports 1990–2003		0.122 (0.075) 13	0.014 (0.007) 7
Constant	251.100 (20.257)	48.395 (13.315)	-4.003 (1.184)
Number of observations	10	14	14
F statistics	28.211	10.442	13.864
R-squared	0.958	0.655	0.716
Adjusted R-squared	0.924	0.592	0.664

Notes: standard errors in parentheses and significance levels (in percent) in italics

Source: author's calculations.

them is found to be significant in regression models here, which may stem from their complex, non-linear nature or endogeneity. The size of a domestic market could put such countries as Russia and Ukraine in a better position in comparison with small economies, but Poland is probably the only one which has really taken advantage of this factor. As regards exports, Mickiewicz (2005) shows that initial trade dependence on other communist economies led to a deeper transformational recession. At the same time, the successful export expansion on Western European markets of, for example, Slovenia, the Czech Republic, Hungary, and Estonia, has fostered their growth. Substantial investment by transnational corporations has undoubtedly contributed to structural change and GDP

growth in several CEE countries. FDI as well as the dynamics of indigenous private enterprises may be endogenous to economic growth. Earlier economic linkages of the former Yugoslavia (especially Slovenia and Croatia), Hungary and Poland with the West may have underlain FDI, small business development, and exports to the EU after 1990. Some authors have tested the influence of macroeconomic instability and inflation at the onset of reforms (Berg et al. 1999; Mickiewicz 2005). Cooley (2000) finds no correlation between levels of international aid per capita and the progress of East European economies.

The economic performance of the post-communist countries has inevitably been influenced by political and institutional factors. Early and thorough institutional reforms are

Table 6. Political and economic determinants of improvement in competitiveness of Central and Eastern European economies since 1989

Explanatory variables	Dependent variable		Change in share of machinery and transport equipment in exports 1990–2003	
	Per capita GDP growth 1989–2004	Change in manufacturing value added per employee 1992–2002	Per capita GDP growth 1989–2004	Per capita GDP growth 1989–2004
Political breakup of the country (dummy variable)	-34.770 (13.846) 3	-79.161 (17.314) 0	-44.535 (27.470) 13	-18.663 (10.015) 8
Time reforms introduced relative to 1990 (years)	-4.143 (2.332) 10	-9.277 (3.710) 3	-19.073 (7.063) 2	
GDP per capita at PPP 1989	0.005 (0.003) 11			
Democratic tradition (dummy variable)				33.711 (9.358) 0
Military conflict (dummy variable)				-25.308 (14.332) 10
Constant	103.885 (18.208)	253.477 (16.810)	203.006 (28.740)	102.116 (9.055)
Number of observations	18	15	16	18
F statistics	4.616	15.300	5.417	7.175
R-squared	0.497	0.718	0.455	0.606
Adjusted R-squared	0.390	0.671	0.371	0.521

Notes: standard errors in parentheses and significance levels (in percent) in italics.

Source: author's calculations.

often regarded as a vital condition underpinning economic success of the post-communist societies (e.g. Berg et al. 1999; Fidrmuc 2003; Mickiewicz 2005).¹¹ Heybey and Murrell (1999) emphasize two-way causation between the speed of reforms and economic growth, e.g. the latter makes reforms easier. Åslund et al. (1996) and Krueger and Ciolko (1998) argue that the relationship between liberalization reforms and growth becomes insignificant follow the inclusion of dummy variables for the former Soviet Union and

military conflicts. This finds support in the analysis carried out here.

The time of reforms¹² appears as a significant determinant of GDP growth in a model for 18 countries (Table 6). It is interesting that the initial level of GDP in 1989 is another factor contributing to growth here (i.e. more developed economies grow faster). Still, it is the dummy variable of political breakup that comes to the fore. The impact of reforms on change in 1989–2004 GDP seems especially strong when 16 countries excluding Belarus and Moldova are analyzed. Reforms and political breakup are also significant explanatory variables in models of dynamics of 1992–2002

¹¹ There is an extensive literature on the standard reforms advocated by the World Bank (1996) and the European Bank for Reconstruction and Development (1996), their critique and actual reforms implemented, e.g. Hausner, Jessop and Nielson (1995), Kornai (1997), Blanchard (1997), Smith and Swain (1998), Jeffries (2002).

¹² This is measured as a number of years relative to 1990, when liberalization and stabilization programmes were introduced according to EBRD (average for the two reforms); e.g. 0 for Poland and 5.5 for Bulgaria.

manufacturing productivity and 1990–2003 dynamics of export structure. However, the relationship between reforms and economic growth proves insignificant, if democratic tradition¹³ and military conflict dummies are introduced into the model (Table 6).

The political events of the early 1990s resulted in the breakup of the Soviet Union, Yugoslavia and Czechoslovakia. This entailed various institutional and infrastructural difficulties in the functioning of national economies, and in the case of Yugoslavia led to war and forced migrations. Thus, the economic development of the two most advanced post-communist economies, Slovenia and the Czech Republic, has been hindered by political factors to some degree. General political stability and predictability is commonly emphasized by TNC managers as one of the major determinants of their investment (Domański 2005). It also affects local enterprises. A distinction is often made from this point of view between Central European countries, the Baltic States and Slovenia on the one hand, and the remaining post-Soviet and Balkan states on the other. The importance of war has been positively tested earlier by Fidrmuc (2003) and Mickiewicz (2005).

There are contrasting views on the impact of democracy on economic growth. Cheung (1998) contends that the introduction of democracy during a transition may lead to inferior outcomes, Tavares and Wacziarg (2001) argue that its effects are moderately negative. China, Taiwan and South Korea are given as examples of fast growing non-democratic countries. According to De Melo et al. (1996), Dethier et al. (1999) and Fidrmuc (2003) democracy has an indirect positive effect, as it is positively correlated with progress in implementing market-oriented reforms, which in turn reinforce growth. What has been measured here is democratic tradition, rather than early reintroduction of democracy analyzed by the authors quoted above; the latter has been affected by the former though.

The post-communist societies differ enormously in terms of long-term democratic tradition; some remained under the rule of authoritarian regimes for several centuries. Rodrik (2000) attributes the positive effects of democracy to the fact that democracy lowers uncertainty and delivers better institutional outcomes in response to adverse shocks. Stenning and Bradshaw (2004: 248–9) emphasize that ‘the uneven development of capitalism in ECE and the FSU is not simply about uneven levels of economic development, of wealth, but also about the uneven development of institutions, structures, cultures, etc., which support the restructuring of society.’ Thus, the functioning state is a prerequisite for the functioning market economy. A transparent and stable legal system and reliable public institutions provide the framework for the effective functioning of market mechanisms, the successful adjustment of enterprises, the creation of new firms and the influx of foreign capital. A broader institutional setting, including local governments and NGOs, should not be ignored as this may also have some impact on the performance of the economy. Some authors put emphasis on the role of EU aspirations of post-communist societies and the attendant impact on the implemented reforms of requirements from Brussels, something which allowed for closer links between some countries and Western Europe.

We should not forget about the differences in the nature of communist regimes, some of which were far more strict and rigid (e.g. the Soviet Union and Czechoslovakia), while others tended to be relatively more open (e.g. in Yugoslavia, Hungary and Poland). The latter left some room for individual formal and/or informal economic activity, as well as contacts with Western Europe. Blanchard and Kremer (1997) investigate the role of centralization in industrial structures, Mickiewicz (2005) the impact of the number of years under communism.

Finally, the phenomena of a social and/or cultural nature have to be tackled more closely. A higher level of education and skills in certain Central European countries, Slo-

¹³ Long-term democratic tradition has been assigned to Slovenia, Croatia, Hungary, Slovakia, the Czech Republic, and Poland.

venia and the Baltic States has been beneficial for the economy. The positive impact of secondary school enrollment has been verified several times (e.g. Denizer 1997; Fidrmuc 2003). It is far more difficult to encapsulate such elements as work ethics, though it is generally believed that nations that were subject to the devastating impact of the Soviet-style organization of work for a shorter time were in a better position. It is also not easy to explain differences in behaviour as regards entrepreneurship among the societies discussed.

One may point to the intensity of earlier migration processes and subsequent international personal contacts as a possible explanation. People in Poland, Hungary and parts of the former Yugoslavia kept personal links with their relatives and friends in Western Europe and North America even under state communism, which meant visits, illegal work and further migration. This inevitably affected the outlook, aspirations and behaviour of many people,¹⁴ which could spread in society through the demonstration effect.

In addition, there are deeper, pre-communist cultural roots to differences in contemporary public attitudes, social activity and institutions. They are often associated with the old divide between Western and Eastern Christendom and Western Christianity and Islam, which also coincides with the borders of the former Tsarist and Ottoman empires. 'To the east of the border there always had been one exclusive overarching authority. ... Nowadays, transitional societies west of the civilizational divide all perform much better than those east of this divide. The former are the 'transition hopefuls' (Van Zon 2005a: 210). This truth may find expression in civil activities and private entrepreneurship on the one hand, and in traditionalist sentiments, neo-patrimonial trends and corruption levels on the other (Van Zon 2005b).

¹⁴ See broader discussion of relationships between international labour mobility, human capital and economic development by Williams, Balaz and Wallace (2004).

Prevailing attitudes to change at the beginning of the transformation should be emphasized here. A deeply ingrained belief in the irreparable crisis of the 'old' system, with its shortages, low efficiency and lack of hope, made some Central European societies more open to radical changes in all spheres of life. Where people widely believed that vast and clear changes were necessary and/or inevitable, they accepted major reforms introduced at the early stages.¹⁵ This may also be associated with a self-perception regarding a Western European identity. The readiness to change in some places contrasted with the societies which adopted a more piecemeal approach at that time and hence did not start off on the path to growth in the first half of the 1990s.

Geographical distance is often presented as a salient factor explaining the differential performance of post-communist economies; its influence has been tested by several authors (see Sachs 1997; Fidrmuc 2003; Gros and Steinherr 2004). The question is, how is this impact interpreted? Is it treated as an aggregate measure, which has to proxy many other factors, including historical legacies, social and cultural traditions, or rather as the actual effect of the geographical distance itself on the processes and factors of economic performance? On the one hand, the former approach may be suitable, though it says little about the nature of phenomena affecting the current development of CEE economies. On the other, the geographical proximity of some countries to the EU could certainly facilitate foreign investment, exports and other influences; nevertheless it is necessary to avoid some sort of geographical determinism, according to which geographical location would determine development prospects. Natural resources may also contribute to exports and GDP growth, though structural changes in the economy may be inhibited, as is evident in Russia.

¹⁵ These attitudes were able alter a few years later, when people realized that their high expectations were not being met, adverse effects became evident, and uncertainty and a lack of understanding of social processes appeared.

In the case of standard of living, car ownership and life expectancy show the closest relationships with indicators of competitiveness. The correlation between car ownership and per capita GDP in 2004 is particularly strong (0.850). At the same time, two different kinds of relationship between post-1989 changes in standard of living on the one hand and competitiveness and political conditions on the other are identified. The first is represented by the model of increase in car ownership 1989–2003, wherein countries lacking long-term democracy and showing high growth in manufacturing productivity manifest greater progress. This may be interpreted as a classic catching up (convergence) pattern, in which societies starting from a low level are able to advance at a faster rate (Table 7). A different pattern is observed in the case of 1989–2003 life expectancy, with which early reformers showing fast improvement in manufacturing productivity perform significantly better. Progress in tertiary education as well as changes in unemployment cannot be explained statistically by reference to the factors considered here.

If we take account of the group of six countries found to be most successful in terms of improvement in competitiveness and standard of living in relation to the EU (i.e. Poland, the Czech Republic, Hungary, Estonia, Slovakia and Albania), we may demonstrate what have been common and distinct determinants of their situation. The common feature of these countries is early economic reforms (introduced by 1993 at the latest). In addition, most have been characterized by a long-term democratic tradition, positive public attitudes to radical change on the onset of transformation, EU aspirations, substantial FDI and proximity to Western European countries. They differed in the initial level of development, structural qualities of the economy and political unity and stability. By contrast, the least successful societies of the former Soviet Union (Moldova, Russia, Ukraine and Belarus) and Yugoslavia (Macedonia, Bosnia & Herzegovina) were slow reformers, lacked a long-term democratic tradition as well as political stability, and suffered negative effects of the political breakup of the federal state. Their

Table 7. Political and economic determinants of improvement in standard of living in Central and Eastern European countries since 1989

Explanatory variables	Dependent variable	Increase in car ownership per 1000 persons 1989–2003	Change in life expectancy 1989–2003
Democratic tradition (dummy variable)		-72.335 (25.196) <i>1</i>	
Change in manufacturing value added per employee 1992–2002		0.487 (0.234) <i>6</i>	0.017 (0.010) <i>11</i>
Time reforms introduced relative to 1990 (years)			-1.022 (0.239) <i>1</i>
Constant		151.104 (41.225)	101.769 (2.197)
Number of observations		15	15
F statistics		5.160	18.447
R-squared		0.462	0.755
Adjusted R-squared		0.373	0.714

Notes: standard errors in parentheses and significance levels (in %) in italics

Source: author's calculations.

historical, cultural and migration linkages with Western Europe and the US have generally been relatively weak. All this means that there are mainly non-economic (political and social) determinants to their lagging behind the EU in terms of economic performance and standard of living.

CONCLUDING REMARKS

All things considered, the gap between many CEE countries and Western Europe is relatively narrow in health and education, in comparison with the considerable disparity regarding productivity and material standard of living; the crisis of post-Soviet societies manifests itself in worse health conditions. Since 1989, significant and universal improvement has taken place in CEEs in relation to Western Europe in educational opportunities and consumption of consumer durables. Disappointing performance has been observed especially in R&D development and (in many of the countries), in unemployment levels, which are generally poorly correlated with other economic trends. Profound disparities exist in levels of and trends for manufacturing productivity and the structure of exports of post-communist economies. This demonstrates a deeper divergence in the competitiveness of CEE economies, something that can influence their performance in the future.

The analysis shows that trends for the economic performance of post-communist European countries have not simply followed historical patterns of economic development. On the one hand there is general continuity, evident in the leading positions of the Slovenian and Czech economies and the disadvantaged situation of Moldova, Macedonia and Bosnia & Herzegovina. On the other, new important differences have emerged over 15 years of transformation. The Czech Republic has performed better than Slovenia as compared with Western European trends in some domains, though Slovenia's GDP has grown faster. Among the medium-developed CEE economies,

Poland has achieved the most prominent success in catching up with the EU 15; Hungary, Slovakia and Estonia have also shown remarkable progress. At the same time, Russia and Serbia & Montenegro have clearly lost their positions. Negative tendencies have also predominated in many other CEE countries, except for Latvia, Lithuania and Croatia. Albania is the only one of the least-developed economies that has shown improvement.

There is nevertheless no doubt that processes of post-communist transformation are strongly affected by the communist and pre-communist past, especially in long-term democratic tradition and education levels. Established international linkages have been important: be these economic (related to exports and imports), or even more so social entailing long-term migrations. West-East contacts, based on cultural links, give rise to demonstration effects, expectations and social activities.

Early post-communist changes and events had a particularly strong impact on subsequent transformation processes. The experience of successful CEE economies confirms that early and thorough reforms have been one of the essential preconditions for economic growth and structural changes. The expansion of indigenous firms and foreign investment follows, facilitating further development. Apart from the fundamental economic shift, several other successful reforms were vital: the introduction of transparent and relatively stable regulations in various domains, effective public institutions (including democratic state and local government and courts, media and non-governmental organizations). This led to political and economic stability and predictability. The debate on 'shock therapy' vs. 'gradualism' has often been ill-conceived, if it missed the basic point as to what was altered. Political breakup and military conflicts hindered economic development. Social and cultural factors are not less important than the scope of reforms of economic structures and political institutions. They include various local activities and public attitudes to change.

All in all, there is a pervasive impact of non-economic—political, social and cultural—phenomena on economic performance and changes in standards of living in the CEE countries since 1989.

The analysis carried out in this paper as well as the comparison of findings of other studies, demonstrate clearly that the evaluation of the role of various factors affecting performance of CEE economies depends on how many countries are actually taken into consideration. The conclusions may be notably different if we are concerned with all post-communist states, including post-Soviet Asian republics, if 18–19 European countries are analyzed, or if discussion is limited to Central and South-Eastern ones only. The fact that the geographical scope of analysis bears strongly on the results is a critical methodological issue, which is too often ignored.

There is a question about the nature of post-communist transformation processes in CEE countries. They are often described as a 'transition' to a market economy. This term puts emphasis on a short-term process of radical shift, institutional in the main. It also implies well-defined, pre-determined outcomes of the process (Smith 2002). Critics point out that the idea of transition ignores, first the multiplicity of capitalist forms of economy and, second, its evolutionary nature (Grabher, Stark 1997).¹⁶ In fact, transition constitutes a specific form of the concept of modernization.

'Modernization' represents a broader view of development as progress. It appears as teleological (aiming at a certain known end), uniform, linear, normalizing and instrumental process. The 'underdeveloped' countries have to follow the path of the 'developed' ones, moving to higher stages of development epitomized by the latter. From the geographical point of view, the process of development means becoming similar to the areas regarded as 'advanced'.

¹⁶ A broader discussion of the concept of 'transition' can be found in Smith and Pickles (1998), Lynn (1999), Lavigne (1999), Bradshaw and Stenning (2004).

In the context of post-communist Europe, this means catching-up by means of adopting the attributes of the Western part of the continent.

The term 'European' has become a synonym for post-communist modernization and normalization, an adjective discriminating between the processes, phenomena, people and places evaluated positively and those assessed negatively. Thus, 'Europeanization' is another form of modernization perspective.¹⁷ It substitutes for the communist model of modernization, which dominated in the CEEs for several decades.¹⁸ Dingsdale (2001) argues that Europe in general can be understood as a modernity project, where the CEE region has repeatedly been conceived as 'marchlands' of different modernities throughout history. The current transformation of CEEs represents only a manifestation of the most recent 'neo-liberalist project' of the new Europe.

The problem with the interpretations conveyed by the notions of transition, modernization and Europeanization is not that they are totally wrong, but that they offer a partial, one-sided view of the transformation of Central and Eastern Europe. They may be useful as long as they are not treated as general models explaining changes in the region. There is obviously an element of modernization and there is a process of becoming more similar to Western European countries, but (1) this is only part of the story, (2) it does not explain the reality, i.e. it is descriptive rather than explanatory.

Many processes are rooted in structures, attitudes, practices and sequences of events from the pre-communist and communist era; hence they are in a broad sense path-dependent. This means that current patterns

¹⁷ See critique of modernization and Europeanization in Tucker (1999), Van Zon (2003) and Domański (2004b). We may point in this context to a discussion on similarities and differences of CEE transitions to democracy and the market economy to post-colonialism and development of the South (Hann 2002; Stenning 2004).

¹⁸ Bauman (1995) called communism 'the last entrenchment of modernity', for Sakwa (1993) the Soviet Union was 'mismodernized'.

and changes cannot be understood without a broader historical perspective. One may too easily fall into the trap of jumping to conclusions on an ongoing, long-term process on the basis of short-term patterns and trends. There is no single pre-determined final stage and/or model to be achieved, the transformation is not a process of normalization, which would simply lead to a copying of the attributes of advanced Western European countries.

Greater progress has been noted in countries geographically closer to Western Europe, which may mean that 'a new Golden Curtain of prosperity' emerges (Dingsdale 2001: 275). The current divergence in economic performance of post-communist states by and large corresponds with the old cultural divide into Western and Eastern Europe, the paths of development of many Balkan countries and post-Soviet states have been different.

Nevertheless, there is no reason to believe in fixed, perpetual core—periphery relationships, neither between Western and East-Central Europe, nor between Central and Eastern-Southern parts of the region, based on cultural (historical) determinism or simple geographical proximity.¹⁹ Any deterministic interpretation can be challenged on the grounds that processes of post-1989 development could have taken a different form in each of the post-communist countries. Factors rooted in history and geography cannot easily be changed, but cultural and geographical barriers can be overcome in the long run too. One may point to the experience of South European countries that joined the EU. The positive tendencies in the Baltic States show that countries more distant from the Western European core are not necessarily natural 'losers'. One of the most fascinating problems is how West—East (post-Soviet) and North—South fault lines within Central and Eastern Europe could be bridged in the future.

This brings us to the question of how much transformation processes are determined

by factors and agents beyond local control. Transnational corporations, which operate on the global scale, are exerting their influence on the region now. The impact of international organizations, including the World Bank with the so-called Washington consensus, the European Bank for Reconstruction and Development and the European Commission in Brussels, is often underscored. Nevertheless, the over-emphasis on the role of a single model of market economy and ready-made policy prescriptions imposed from above may be as simplistic as the belief in a singular, linear 'transition'.

The local (national) level has not been just an obstacle and/or arena and receiver responding to changes prescribed elsewhere. On the contrary, there is copious evidence that local activities have been vital. State policies adopted (institutional and legal changes) in particular countries differed enormously.²⁰ In addition, individual and social attitudes and activities constituted the basis for citizen mobilization, self-government, enterprise strategies, trade union and NGO actions and consumer practices. Local agency matters a great deal, to the point that a transformation imposed from outside hardly works.

This is both an optimistic and a pessimistic conclusion. On the one hand, it means that a system of functioning democracy, a successful market economy and prosperity cannot be simply designed, imported and implemented in a CEE state irrespective of local conditions and activities. On the other, despite the influence of historical conditions and the path-dependent nature of several processes, change is possible. There is a need to facilitate social mobilization and self-organization in each society. The economic and political structures, which underlie the economic performance of post-communist countries, are built upon local social activities and institutions. They may be supported by appropriate European policies.²¹

²⁰ See for example contrasting approaches to privatization (Williams and Balaž 1999; Jeffries 2002).

²¹ See the debate on challenges faced by Europe and its strategic choices, in two recent volumes edited by Kukliński and Pawłowski (2005a,b).

¹⁹ See the critique of a simplistic interpretation of the European core and periphery in Domanski (2004a).

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BOOK REVIEW

Handbook of Sustainable Development Planning; Studies in Modelling and Decision Support, edited by M. A. Quaddus and M.A.B. Siddique, Edward Elgar, Cheltenham, UK; Northampton, MA, USA, 2004, 360 pp.—MIROSLAW GROCHOWSKI

This book is a very special and useful publication, since it combines chapters presenting different approaches to the concept of sustainable development and pointing out various aspects of this concept of special importance from the perspective of policy and decision making.

While the concept of sustainable development is being seen as a very promising tool in managing development, there is a lack of tested instruments and methods that would allow the concept to be introduced into the practice of strategic planning and the day-to-day management of the development processes. At the core of the decision-making process is the need for quality information that must be collected, analyzed, and disseminated appropriately. One of the most important sources of information is constituted by the outcome when model-based decision-support-systems are applied. The authors of the book show how modelling can support planning for sustainable development and provide specific and appropriate information for the corresponding decision-making activities. The authors refer to the three general types of model-based decision-support systems: decision-support systems (DSS), group decision-support systems (GDSS), and creative decision-support systems (CDSS).

The book is in three parts. The first part: *Modelling for sustainable development*, has four chapters and deals with the concepts underpinning the modelling of sustain-

ability from the planning and development perspectives. In this part, the nature and dimensions of sustainable development and the model-based systems by which it can be planned for are examined. The second part of the book: *Case studies*, contains ten chapters dealing with the application of decision-support systems in: environmental management, mining, energy management, land and water management, agriculture, aquaculture and infrastructure. Part three of the book: *Future directions* then offers proposals as regards the future directions to modelling and decision support.

In the book, a reader will find an extensive presentation of the current evolution of the sustainability notion. This is especially interesting, since it is done from the perspective of the role of model-based systems in sustainable development planning. It is pointed out that there is no single definition of sustainable development, and that planning is therefore very difficult, on account of the shortfall when it comes to well-structured information and knowledge on what has to be sustained and how.

Chapter 1 of the first part of the book reviews the way in which modelling and decision support activities have been applied in sustainable development planning. On modelling type, the authors conclude that most of the applications have been using quantitative modelling. As regards the extent of DSS use, about half the applications are found to have used, or to have suggested using, a DSS-type approach.

The lack of any rigid definition of sustainable development creates further problems where achieving operability is concerned. However, there is an opinion in chapter 2 which holds that researchers have been making significant progress in recent years

developing various models by which to plan for sustainable development. Policy makers have also come forward to develop strategies that move societies on to sustainable paths of development.

Chapter 3 focuses on the modelling of long-term sustainability, defined as the economic process of physical, social, and ecological reproduction. From the basic macroeconomic growth model, the author develops a physical reproducibility model adding in equations relating to capital depreciation, non-renewable resource depletion and raw material input. The author (Kaoru Yamaguchi) notes the continuous depletion of non-renewable energies, even when it is a steady-state equilibrium that is being simulated. Two solutions to the countering of such depletion are offered: to invent an efficient use of non-renewable energy, and to discover or develop substitutes. If those solutions are not found, two self-regulating forces will arise in the economy: one entailing the regulation of non-renewable energies through increased price, the other a reduction in productivity as the depletion sets in. These two forces will act negatively on population growth, and social reproducibility will no longer be sustained. The author argues that the latter needs to be related to non-renewable resources and that their depletion leads to an unavoidable economic trap. If that trap is to be avoided, substitutes for non-renewable resources must be found. However, these can only postpone the economic trap until the 22nd century; they cannot allow long-term sustainability to be achieved. The author presents a simulation of sustainable growth using a proposed new system dynamics model. The results reveal interconnection of a negative kind between the three processes of reproducibility. If economic growth is sustained, continuous ecological non-sustainability will occur. At the end of the chapter, the author draws on the results of the modelling exercise, to state that long-term sustainability is not achievable using non-renewable resources.

The last chapter of the first part of the book questions the role of economics as

the bottom line for sustainability which is generally considered to depend on a capacity of the current generation to leave all components of the natural and cultural environment in the best possible condition for future generations. There are different opinions as to how this might be achieved. Orthodox economists see an accumulation of man-made capital as the solution, while neo-Malthusians focus on the conservation of natural resources and environmental capital. The author (Clem Tisdell) argues that the capitalist system favors the orthodox economists' views questioning economics as the bottom line for sustainability and pointing out that economic systems are embedded in social and natural systems to the extent that those systems are interdependent.

The part of the book containing cases is focused on the identification of model-based systems utilizable as decisions are made in the planning of sustainable development in certain critical areas. The most challenging task for a sustainable-development planner is to take into consideration the interests of all the stakeholders of a development. The more the stakeholders are involved in planning and decision-making, the higher the quality of the decisions made. The case studies offer some examples of developed model-based systems aiming at the facilitation of genuine sustainable development in selected areas.

In the case of environmental management, the authors of chapter 5 (Aybuke Aurum, Melicha Handzic and Christine Van Toorn) argue that disaster planning must form an essential element of sustainable development planning, but note at the same time that no appropriate decision-support tool has yet been developed. The authors do develop a creative decision support system (CDSS) to assist planning, this being based on the assumption that development, learning and practice are possible, and that such 'thinking application' can be used to generate ideas. The CDSS is then applied by the authors to bushfire planning in New South Wales, Australia.

In the case of mining, a hierarchical framework for the evaluation of mine projects for their sustainability is presented,

and applied to a real-world mine-evaluation problem in India. The hierarchical model categorizes mine-evaluation for sustainability in line with 'internal' and 'external' impacts. The external impacts are broken down by reference to three sustainability criteria with physical, economic and social dimensions. These criteria are then further broken down into various specific sub-criteria. All those proposed are then to be measured by stakeholders using an approach called the analytical hierarchical process.

In the case of energy management, the assumption presented in the book is that the energy policies of a country should not be confined to the supplying of the necessary and increasing demand for energy, but should also promote the sustainable consumption of available natural resources. The model presented in the book: MDES RAP (Model for Dynamics of Electric Supply, Resources and Pollution) was based on system dynamics (SD) methodology, and applied to the development of energy policy design for the electricity supply in Pakistan. The model is organized into seven sectors: electricity demand, investment demand, capital demand, resource demand, production demand, environment demand, and cost and pricing demand. It is claimed that an SD modelling approach to economy-wide energy policies provides an adequate representation of the interplay between energy, the economy and the environment.

For land and water management there are two cases presented in the book. The first is a system dynamic model developed for policy choices as regards the need for unfiltered water in New York City, and the preservation of the environment and maintenance of socio-economic development in the watershed regions. There are four main loops in this model: the watershed expansion loop, the conservation loop, the land consumption loop, and the water quality loop. These loops give insight into policy issues and show the complex and conflicting relationships between the interconnected subsystems and priorities of the watershed communities and city of New York. The sec-

ond case is an applied economic model used in countries of Central Europe. The model examines the key principles for setting water prices, such as the furnishing of incentives for the efficient use of water, the distribution of costs in an equitable way, (taking into account social issues) and the maintenance of a pricing structure whose implementation is straightforward. Modelling proves that increased water prices would reduce the demand for water systems expansion and can be used as a measure upon which to attain environmental goals and ensure recovery of the costs of water services.

The book states that the case of agriculture necessitates the development of an approach in the decision-making process that will help planners to achieve greater sustainability through better management of land, water and biodiversity. The case of the Mediterranean basin's intensive agricultural systems is analyzed through the combined use of dynamic system models, environmental modelling and geographical information systems (GIS). The model proposed addresses problems in regards to the production of residuals and consumption of natural resources in the context of conditions that change over time but are at the same time determined by specific location. Maps produced using the modelling procedure allow for the analysis of past, current and potential conflicts in the sector of agriculture.

An especially interesting case is that of aquaculture. The book states that, even in the absence of market failures, economic agents may choose unsustainable income paths instead of sustainable ones. This arises when private benefits from production are higher than its social collective benefits. It is noted that there is no correlation between the intensity of aquaculture and environmental damage. Aquaculture may have positive, negative, or even neutral environmental spillovers. Policies that can be implemented to regulate those of an adverse nature are in the three main categories of control, prohibition and administrative regulation involving also pricing

and the market approach. Unfortunately, experience shows that there is no perfect choice of policy instruments.

The last critical area, that of infrastructure, is addressed in the example of the DSS model for ecosystems management (EM) in the management of infrastructure in Houston, Texas, as regards transportation, water supply, wastewater treatment and drainage. A holistic ecosystem-based approach linking human needs with social, economic, and environmental conditions is essential to achieving sustainable EM. The model developed integrates knowledge and information from the diverse fields of the social and hard sciences, as well as from the public.

The case of the Houston project helps in an understanding of how complex the problems relating to EM and sustainability are, and shows the way in which stakeholders interact in order to solve environmental problems. Infrastructural development is seen as one of the necessary conditions underpinning economic development. However, in certain cases the development of infrastructure may worsen income distribution, something that affects sustainable economic growth and human security in a negative way. This is the case in developing countries where infrastructure development policies lack awareness of the specific economic system which prevails there. It is argued that developing countries feature a dual economic system consisting of a profit-maximizing capitalist sector and a consumption-maximizing self-employed sector. It is then essential that those planning infrastructural development in these countries take account of the dynamic relationships existing between these two sectors.

The last chapter contains a presentation of views on the future of modelling as a tool supporting sustainable development planning. It is thought most likely that recent trends in the developing and application of model-based systems will be maintained. The scope of the models developed so far is limited, so more research is expected with a view to the attributes of the existing models being further enhanced.

More research exploring the application of these models to other fields of sustainable development is anticipated, and one of the great challenges to sustainable development planning is surely going to be the achievement of more of a social focus where development is concerned. The role of a civil society in general, and NGOs in particular, must be taken more seriously by planners. Another issue is good governance: accountability and transparency in both the public and private sector certainly influence the individual's choice in the decision-making process regarding sustainable development planning. Future activities undertaken by researchers will help in overcoming routine thinking on planning and the decision-making process.

The book *Handbook of Sustainable Development Planning; Studies in Modelling and Decision Support* is perfect for readers in different professions who deal with planning and development management. It contains interesting theoretical considerations, provokes discussion, and provides new perspectives for the analysis of sustainable development processes. The cases presented illustrate the complexity of the issues relating to sustainable development and show how modelling can support policy and decision making processes. The arguments advanced to support the book's contentions can serve as a basis for further discussion on both the nature of sustainable development and on modelling as a tool by which it can be fostered. Although the authors of the first part present rather bleak prospects for sustainable development, they still argue that its achievability to the highest possible extent, through proper and scientifically-grounded planning that applies model-based systems. This book offers good evidence that they are right.

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Books:

Stren, R., White, R. and Whitney, J. (1992), *Sustainable Cities*, London, Jessica Kingsley Publishers.

Chapters from books:

Dematteis, G. (1996), *Toward a Unified Metropolitan System in Europe: Core Centrality versus Network Distributed Centrality*, in Pumain, D. and Saint-Julien, T. (eds.), *Urban Networks in Europe*, INED, John Libbey, Paris, 19–28.

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