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The Future of Industry in Central and Eastern Europe
The project: Its organisation and selected results

Starting in the beginning of 1994 this project - the Future of Industry in Central and Eastern Europe - was carried out with support of the EU-Commission under the COPERNICUS Scheme. The research network consisted of teams from six Central and Eastern European (CEE) and four European Union countries[1].

In this paper the conceptual approach and the structure of the research process are outlined and some of the results are highlighted. The full material is represented in 18 industry-studies, 6 country-studies and a synthesis report. The wealth of information and analysis, provided by the 6 research teams makes it extremely difficult to summarize the results in short. Still there are some general lines visible, that will be described. Above that, even in the short period of this project things have changed and still change considerably. To quote our colleague Elena Ilyinkova from the Ukraine, dealing with industrial development in CEE countries is "like drawing a map of a landscape during a permanent earthquake". Therefore the results presented here mainly reflect the present situation and are interpreted in the light of a more general framework of the development of the countries under study.

1. Main assumptions of the project

Even after five years of change the economies in the Central and Eastern European countries still face a double challenge: to overcome the legacy of socialist past, which has left them with an industrial structure that in most cases is too big for the present market situation and with products and means of production that lag behind or are not adequate to international standards. At the same time they have to face the enormous task to change from a command economy to a market economy. Our Czech colleague Pavel Mertlik characterized this situation with the sentence: "After 1989 Czecho-Slovakia was in the situation of an economy without markets that had to be changed into a market economy"[2]

Consequently these countries have to transform the logic of their economies and, at the same time, to try to integrate them into a larger European (and global) economy. How they manage this task and what the condition for further development of particular industries and countries in this region will be in the next years is the general question of the research project.

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[1] The countries included are Bulgaria (T. Gradev, London/Sofia), Czech Republic (P. Mertlik, Prague), Hungary (A. Inzelt, Budapest), Lithuania (B. Semigonovas, Kaunas), Poland (J. Hausner, Kracow), Ukraine (E. Ilyinkowa, Zaparoshje); besides the IAT members the "western" team consists of researchers from the Netherlands (H. van Zon), Great Britain (T. Charles, Sunderland) and Ireland (B. Dillon, Dublin).

[2] P. Mertlik: The Role of the Government in Industrial Restructuring: The Czech Case. in: UCEMET Working Papers No. 5, Krakow 1994

Two main actors are challenged by this task: The governments of the newly emerging democracies, that have to strive for political and social consensus and to provide the institutional framework for a functioning market economy; and the industries which are bound to reorganize their structure so that they can succeed in a competitive enviroment.

In a politically and economically highly unstable environment unstable enterprises try to gain new market shares. This situation is further aggravated by the fact that markets are now open for cheap, low quality products from all corners of the globe. The almost "natural" response of industry in CEE-countries is the effort to compete on the same level: to switch to low-cost low-quality products. Therefore, one of the most important problems is to preserve the existing potentials for sophisticated production which nonetheless exist in these countries, restructure them and fit them into new networks and production chains enabling them to bring forth new products for new markets.

This requires innovative capacities, which not only depend on capital (although the importance of financial support in whatever form must not be underestimated), but also on the ability to mobilise the existing forces and to develop them in a way that industries can survive in a changing environment.

Change in industry is not a purely economic question. Complex social processes are required to transform technological innovation and knowledge into new marketable products. In these processes human qualification and intra-firm organization are just as important as cooperation between firms, and well established structures among firms, regional networks, interest representation (unions, business associations) and the state.

Worldwide, more and more countries gain competence in sophisticated production and the division of labour in industry is undergoing substantial change - or rather: traditional division of labour gives way to global production networks, that make use of specific strengths of various locations all over the world. Since the early nineties the latest, the CEE countries are serious competitors not only for market shares, but also in the worldwide struggle for locational avdvantages. From a quick glance it seems as if they had mainly one advantage to offer: a cheap and rather well qualified labour force. It was also one of the targets of this project to say more about the prospects to make this region and its economies a location which can compete in a larger Europe.

On the basis of these considerations and observations the project, broadly speaking, tried to answer two questions:

* What are the conditions for an innovative development in industry itself?

* What are the conditions of the national social, political and economic framework for further development and industrial innovation?

2. The research network and its elements

As mentioned above six central and eastern European countries and selected industries are subject of the research: Lithuania and the Ukraine which have been integral parts of the Soviet Union, the Czech Republic, Hungary and Poland that formed the Western periphery of the CMEA and Bulgaria, the only Balkan country in our selection. The research network accordingly consists of six country teams headed by senior researchers, a coordination team located with the Institute for Work and Technology, and a "sounding board" made up by two colleagues from Ireland and the United Kingdom. In selecting the countries, the initial goal had been to cover as many CEE countries as possible. Finally the availabiltiy of funds and of research teams determined the selection.

The framework for analysis: the countries

All countries under study share the general problems of the post-Soviet economies: an unbalanced industrial structure, with enterprises whose only function was to produce, undeveloped money markets and banking systems and insufficient administrative structures and institutions. Being tied to the Soviet production chain by means of the CMEA, they often only enjoyed partial control over their resources. They were dependent on Soviet raw materials, and in turn the Soviet Union and the CMEA constituted the main market for their products. These facts from the past have their consequences for the present situation and the relative position of a country in the transformation process. Among others the country reports show that the present situation is influenced by the degree of industrialization in pre-communist times. As it turns out, a long standing industrial tradititon and culture, though disrupted by CMEA in communist times, has advantages, whereas a rapid industrialization after the Second World War limits the flexibility and the abiltiy to adapt the economy to the new conditions. The position within the CMEA division of labour and the degree of embeddedness into the economic structure of the FSU also determines pace and problems in the transformation process. To illustrate the differences, two countries, which might be looked upon as quite opposite on these dimensions will be described more closely: Lithuania and the Czech Republic.

Lithuania saw the change from a mainly agrarian society to an industrial ecomomy of military-strategic importance only after World War II. The new industries, their products and their dimensions had not been tailored to the needs of the country but to Soviet strategic rationales. The most important branches had been and still are machine tools, foodstuffs (on the basis of a large agricultural sector), textiles (the only branch which by means of contracted work has acquired access to western markets), some chemicals and electrotechnical products, among others telecommunication equipment. Energy, raw materials and supply of unfinished products as well as production and distribution of final products were steered and managed from Moscow. For this reason there had been no chance for production or technological networks ("industrial clusters") to develop inside the country based on local and regional know how. Management had to care mainly for production and consequently was qualified in engineering and technical matters of production, but strongly underqualified in marketing, finance, personnel management or organisation of research and development. Enterprises commanded a relatively well qualified workforce, although mainly because of outdated technology and equipment, products only reached Soviet but no world quality standard. Foreign trade with non-Soviet regions was organized and steered in Moscow, albeit it has never been very high. Trade within the Baltic region has traditionally been only low and has not been developed during Soviet times. Although since 1990 a reorientation of foreign trade towards the west has taken

place the FSU-regions remain the most important markets, and the dependency on Russia in energy and raw material supply is still very high. Still Lithuania (just like the other Baltic states) enjoyed the highest living standard within the former Soviet Union.

The other end of the spectrum is marked by the Czech Republic with its more than hundred years of industrial tradition. By the end of the Habsburg empire in 1918 the Czech Lands represented about 70% of the Austrian industrial capacity, and until the thirties the Czech technological standard was estimated higher than that of most other European countries. After the communist take-over in 1948 the broadly diversified 'civil' industry was reorganised towards heavy industries of military-strategic importance (which today is one of the main burdens of the Slovac Republic). The production of consumer goods was scaled down to domestic demand, and formerly known and renowned branches and "industrial clusters"[3] like shoe industry or textile industry declined. This re-orientation also cut off these industries from technological developments and markets in western countries, which formerly had been the main customers. The still relatively broad range of products allowed for a fast and successful reorientation towards western markets after the "Velvet Revolution": in 1987 roughly 35% of Czechoslovakian exports were directed towards outside the CMEA, in 1992 already 70% had been passed (even if the price for it was that many products had to be sold for production costs or even less). Another advantage emerging from a long industrial tradititon is the rather well developed educational and vocational training system. Compared to other countries the management in the Czech industry proved rather flexible and adjusted quite quickly to the requirements of a market-led economy. Just like the other countries the Czech Republic is to a certain degree dependent on Russian imports, but obviously the balance is more favourable; and again just like the other countries the Czech Republic is looking out for the "old" markets in the East to stabilize production and development.

It is along this continuum of an only lately and under Soviet rule industrialized agrarian country and a traditional middle European industrialized country that the countries under study can at least roughly be categorized. Accordingly, it is a matter of degree how much they suffer from the past economic structure and how they are able to adjust to a new one. A particular case in our sample is the Ukraine, which on the one hand has a different tradition and history of industrialization and still is far more dependent on and interwoven with economic and political developments in Russia than the other countries.

It goes for all countries that the degree of political stabilisation and political consensus is an important factor in the transformation process. Social and political consensus supports the economic development (as again can be shown in the Czech case), mainly because people are more willing to undergo temporary hardships. Above that, political stability also is important for foreign direct investment.

The units of analysis: the industries

The main empirical focus of the study are industries (defined as sub-branches). For their selection, criteria have been developed (resources allowed only for three industries to be analysed per country); after a review of literature the team opted for an altered version of a

[3] "Industrial cluster" here means that not only the production of a product, but the entire supply chain, including the construction and production of machines was located in one region.

scheme developed by K. Gorka[4], according to which each country team studied three types of industries:

- one industry which is of high utility for the national economy in the sense that it is based on domestic resources and contributes to basic needs;
- one high opportunity industry as far as international competitiveness is concerned; whose prospects are based on a high technological standard, a highly qualified labour force and prospects for future profitability;
- one industry which belongs to the group of high capital and energy consumers and, for economic and ecological reasons is a burden for the national economy.

Given these general criteria the country teams individually decided to investigate the following industries:

country	**high utility**	**high opportunity**	**high burden**
Bulgaria	food industry	mechanical handling industry	ferrous metal industry
Czech Republic	canning industry	pharmaceutical industry	textile industry
Hungary	food industry	car parts industry	energy industry
Lithuania	food industry	textile industry	telecommunication equipment industry
Poland	sugar industry	aircraft industry	ferrous metal industry
Ukraine	sugar industry	aircraft industry	ferrous metal industry

These choices reflect some of the overall structure of CEE-economies: based on a relatively large agricultural sector in all countries food processing industries play an important (sometimes even strategic) role. With few exceptions (CZ, LIT) the "high opportunity" industries are based on the specialisations developed during CMEA-membership and on the whole require higher technological qualifications (e.g. aircraft industry). As greatest burden, in four cases raw material- and energy intensive industries are analysed.

On the basis of this selection research was done, using statistical data, own field work (case studies, interviews) and recent literature. Each country team has delivered three industry reports, as well as one country report which puts the findings of the industry studies in the context of the national economy.

[4] This classification is based on an article by Kazimierz Gorka, who starts with a similar scheme in order to draw conclusions about necessary industrial policy by the state; the application of criteria used by the OECD-TEP Programme or by Porter (level of technology, qualification, profitability) would have led to a very similar selection.

Besides the exchange of papers the main vehicle for communication were five workshops, which were held in the participating countries. The workshops fitted into an agreed work schedule and were based on interim reports of the country teams. The first one had been dedicated to develop a common understanding of the design and to select the industries. Another function of the workshops was to discuss general aspects of transformation (e.g. innovation regimes and policies; transformation policies and privatisation, industrial policy etc.) with additional researchers, invited to contribute to the respective subject. Above that, during the workshops in all countries enterprises have been visited.

3. Selected results

Taking our question for the conditions in industry on the one hand and the influences of their respective national environement on the other hand as starting points, selected results concerning changes in industrial structure and in enterprise structure and behaviour are presented. Finally some conclusions about the influence of the national framework on different levels of development are drawn.

Industrial structure

In all countries and industries in the meantime steps have been taken to disentangle the large state owned enterprises. This, however, has been done with different emphasis and success. The rules and measures taken to decentralize, commercialize and privatize state owned enterprises are manifold and have undergone several adaptive processes in most of the countries. In many cases the corporate status of enterprises has been changed, but direct or indirect state control has remained nevertheless. The present state of the privatization process shows, that the question is not state vs. private ownership per se, but that the crucial issue is the ability of enterprises to act in their own responsibility and to take the necessary decisions for adaptation to market conditions. Examples demonstrate that the speed of the privatization process, and a clear new ownership as result, contribute most to a successful privatization process.

Beside the privatization of state owned enterprises the emergence of new private firms contributes to a new industry structure. In many cases this happens in trade and services, where the required capital investment is usually relatively low. A genuine private sector in industry is harder to establish because of the missing or insufficient financial infrastructure and corresponding services; in addition monetary policies result in high interest rates, which hamper the founding of new enterprises. Where these difficulties can be overcome, enterprises in the new private sector tend to be successful and innovative.

Both privatization and new private enterprises contribute to changes in the size-structure of industries. The emergence of small and medium sized enterprises can be observed in particular in industries where simple products, sometimes based on craftmanship (in our case the food industries) prevail. Here SMEs contribute to competititon and are an important link to customer oriented quality production and diversification.

Interrelations between enterprises have changed considerably, not only due to the dissolution of CMEA, but also because of a very different quality of the relationship. Formerly centrally planned exchange relations (supply, trade, exchange of research and development) are now replaced by contractual relationships. Branch ministries as central steering agencies do not exist

any more or have lost their functions. Business associations and other intermediary structures that might take over these function are only developing slowly. In many cases they have not taken over the tasks of interest aggregation and representation of the industry yet. New bargaining patterns need the adequate institutional framework.

Enterprise structure

Since the goals and functions of enterprises in the socalist context have been quite different from those in a market economy, transformation processes on enterprise level tackle almost all aspects. Among the most difficult problems in transformation is the fact that enterprises were responsible for a large number of social functions, which are only slowly taken over by alternative social systems.

The eighteen industries investigated in this study share the common fate that they were part of the CMEA division of labour and therefore have all been more or less shielded from global competition, and, what is probably even more important now there was very little competition within the system. Emphasis was put on on complementarity within the CMEA. The main goal of production were large quantities, using economies of scale. For the enterprise itself it was of little signifcance which products it produced, because CMEA markets were large and managements in most cases had not to care about selling their products.

The necessitiy to act in a competitive environment forces enterprises to change their products and production systems with its consequences for management and workforce. Changes in product structure show a general tendency towards less sophisticated products. This is, on the one hand, due to the general economic situation in which lower quality and unexpensive products are demanded and, on the other hand, to a declinining demand in technologically sophisticated products e.g. for military or aerospace industry of the FSU. Genuine development of new high quality products for other markets is very rare because of deficits in R&D.

Excess production capacities, to be found in almost every industry under study are frequently used for a kind of "diversification", partly for the production of goods which have little to do with the core products. Still this is, for a number of enterprises, the only way to survive. In other cases these capacities are used for work in contract. Though this often means that everything necessary for the production process is imported, this is judged positively in some reports because it provides access to western technology, western distribution systems and other western know how.

Production technology and production systems also have been almost uniquely taylored for large scale production. In most cases renewal of production facilities is not possible because of lacking finance. A first adaptation to the new market situation happens through incremental change in quality control, application of higher quality standards and improvements in packing of products.

Management in state owned enterprises usually was qualified in technical disciplines and trained for administrative abilities, organizing the manufacturing process by following the "plan". According to our results management in enterprises goes very different ways in different countries. This reaches from a quick adaptation to the new requirements and flexibility to perform so far missing functions (marketing, finances etc.) to bold opposition to any kind of changes, withdrawing enterprises from an opening to the new conditions. These differences

mostly are due to unclear ownership and weak governance structures. Insufficient governance structures can also lead to rather dispersed and single enterprise-related transformation which is not market oriented but a sheer survival strategy.

The chronical shortage of money has hit research and development quite seriously. Changes in R&D are characterized by a general decline of research facilities, both from the institutional as well as from the personnel side. Researchers change to private enterprises, and often drift off to other occupations. The decline of military R&D and production leads to a lack of demand of high-tech products and the decline of systematic research. Ties between basic and applied research are frequently disrupted by the dissolution of USSR and CMEA. (e.g the Ukrainian aviation industry "inherited" a large design shop, but is now cut off basic research).

The problem of innovative development (as can be also shown in many advanced economies), however, is not only a question of research facilities, but a complex social process. According to the reports, innvovative development is mainly triggered by "import". If this is so, it is particularly important to create the conditons to absorb and employ these incentives. The adoption of new technologies and innovative incentives heavily depends on a skilled workforce and a well functioning educational system in general. Annamaria Inzelt also stresses the signifiance of cooperation in R&D projects with western countries.

These results delineate some general trends which become visible incomparing the findings of the industry studies. Of course, the mentioned development lines have very different weights and facettes in the six countries. This becomes obvious in the respective stage of economic development and stabilization. A final remark, however, will not result in some "rank-ordering" of the countries under study, but try to shed light on some of the important factors which account for the present and maybe future situation.

4. Different types of development: What makes the difference?

It is a well stated thesis e.g. of the EBRD (Transition Report 1995, 45; Balcerowicz 1994), that those countries, which had stuck to a rigid transformation strategy have advanced more rapidly towards a market economy, and on top of that had experienced more modest slumps respectively earlier recovery in output. Still the authors of the Transition Report have to admit that progress even in these countries (such as Poland, Czech Republic) has been much slower than expected and ended up in a strategy of gradual change. The economic explanation of differences between countries, of course, is the precarious balance between macroeconomic stabilization and the financial demand of industrial and social restructuring. It is our thesis that this uneasy balance is to a large degree based on the missing moderating influence of the institutional framework, or the performance of the "governance structures", which a country can command.

The argument here is, that with respect to future development the whole "setting" of a country, its internal organization, institutional infrastructure, economic traditions, consensus and stability matters more than a particular type of economic or industrial policy (for instance: "big bang" or slow transformation strategy).

With the downturn of central party governments former control and coordinating structures in industry have either lost their powers and competences or have vanished at all. Enterprises and

their employees were in most cases more or less directly exposed to the world market as well as to the effects of macroeconomic stabilization. Examples can highlight this argument: the reduction of traditional overstaffing as well as the reshuffling of labour from obsolete productions to more promising ones certainly was and is economically necessary - but there are no institutions, public or private, to organize the reallocation of labour. For those hit by unemployment, this may be perceived as unjustified hardship, and consequently motivation and support for reforms is severely challenged. This situation can be followed up through all the countries discussed here and is reflected in recent election results.

Macroeconomic stabilization calls for strict budget constraints and financial discipline - with the effect that in the absence of a functioning banking system and money markets even promising firms find it hard to raise capital for restructuring or export financing; in some cases (e.g. Lithuania, but also Czech Republic) monetary policies even turned out to severely hamper exports (apart from the effects of inflation and depreciation).

A similar effect can be shown with respect to r&d: the link between basic research and enterprises has traditionally been weak, although most of the countries had a broad range of institutions for basic as well as applied research. But with the dissolution of the academies and deep and lasting cuts into university budgets the innovative infrastructure eroded, in some countries (e.g. Lithuania) it is more or less non-existent any longer. The outcome is that even in the "advanced" CEE-countries enterprises employ a highly qualified labour force and sophisticated production systems with low-quality products or with contracted work because there is no fresh innovative input. Institution-building by its nature is a long-term process requiring a high degree of consensus. Not without reason many of the basic political and societal institutions in Europe have a hundred years' history. But this complex process now in many CEE-countries is trapped in short-term strategic considerations of party policies - which creates economic uncertainties and lack of political credibility.

Institutional deficiencies are a common characteristic of Central and Eastern European countries - what really makes the difference is whether the whole national framework embodies the political credibility and commitment to reform for entering the necessary societal bargaining processes. This is not given in all countries alike. The almost "classical" dilemma of CEE-countries is: to simultaneously keep tight control over the macroeconomic situation and to keep the basic expectations of the electorate satisfied (and thus to preserve loyalty) and still to manage the structural change of a society.

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