

MODEL OF ECONOMIC TRANSFORMATION IN CENTRAL AND EASTERN EUROPE - ANALYSIS OF CHANGES IN TRANSPORT SECTOR

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Abstract

The aim of the paper is to present the model of economic transformation in Central and Eastern European countries and its applications. In first part of the paper, the assumptions of the model, which is based on theoretical foundations of the institutional economics, have been described. Transformation is considering as a complex change of economic structures. The model allows to distinguish process of transformation and effects of changes. Besides description of specific processes of changes, determinants are also identified. The model can be applied for examination of transformation of the whole economy and different sectors. On the base of the model one can compare transformation of different sectors of economy in different countries. The model can be also applied in order to forecast and create scenarios. In the empirical part of the paper, on the base of the model, the examination of transformation in transport sector is done. Moreover, in final part of the paper, the ex-ante analysis aims at determination of scenarios of transport development in last stage of transformation in Central and Eastern European countries.

Key words: Transformation; Central and Eastern Europe; Institutional change

Topic Area: G5 Transport Investment and Economic Development

1. Introduction

The subject of the paper is to present the model of economic transformation in Central and Eastern European countries (CEEC) as well as to verify the model on the base of transport sector. The studies are the continuation of the analysis being made previously and presented already in 8th WCTR and 9th WCTR (Bak, 1999), (Bak, 2001). In the first part of the paper the general assumptions of the model will be presented. This part has a character of theoretical analysis. Next item is devoted to description of determinants influenced process of transformation. In this part results of theoretical researches will be shown, but also indicators allowing to practical estimation of the factors in different countries will be established. Moreover, results of the analysis of transformation determinants for the CEE countries will be presented, what allows to display countries characterised by best and worst flexibility for transformation.

It should be remarked that in 9th WCTR, author analysed effects of transformation in transport sector, and now she is going to touch the process of changes. One can gain the impression that the sequence is illogical. But it results from clear division between process of transformation and effects of changes, while in literature very often one can find analysis of effects (which are rather well known in practice), instead of mechanism of transformation itself (worse examined in scientific researches). It can be explained by the difficulties of creating theoretical models and scientific instruments for changes, which practical proceed. Some researches of transformation say that in order to create economic theory of transformation, the

time-perspective is needed. Therefore, also in this researches firstly author analysed visible effects of transformation and then dealt with theory of change and mechanism of transformation in institutional approach.

Next section of the paper concerns verification of theoretical model of transformation in the transport sector. Only mechanism of changes have been tackled, without taking into consideration effects of transformation in transport.

The last part of the paper indicates practical usability of the model to study different phenomenon in relation to transport sector, e.g. what are the determinants and mechanism of introducing new pricing system in transport for infrastructure use, or to what extent financial support of the EU for the CEE countries can influence completion of transformation. Moreover, the model allows to create scenarios of transport development in transformation or post-transformation conditions.

2. General assumptions of the model of transformation

2.1. Scheme of the model

The author, on the base of economic theories, especially institutional economics, designed a theoretical model of transformation. The model has a character of nominal one, which presents a pattern of transformation. Transformation is considering as a complex change of economic structures. The general scheme of the model is presented on figure 1.

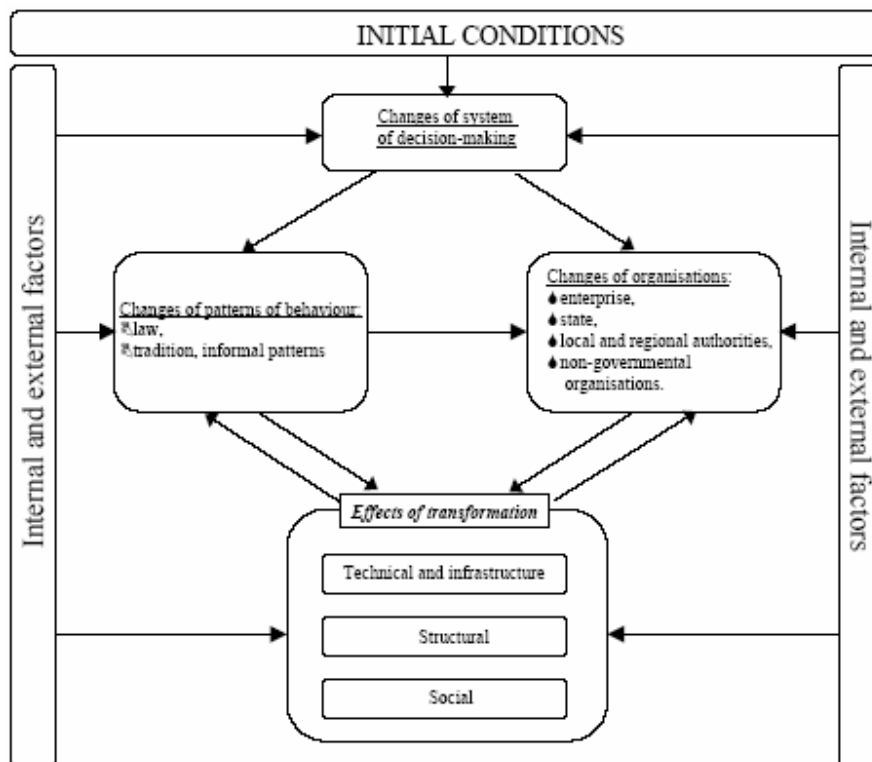


Figure 1 General scheme of the model of economic transformation

Initial conditions generate process of transformation (initiators have been described in section 3 of the paper). The first type of changes consists in transforming decision making system. It allows then to transform another institutions, i.e. patterns of behaviour and

organisations (enterprise, state, national, local authorities, non-governmental institutions). The model allows to distinguish process of transformation and effects of changes. The process of transformation generates some effects, and simultaneously interactions occurs, what means that some effects of transformation cause acceleration or delay of changes in specific elements of transformation processes. Then, besides description of specific processes of changes, determinants are also identified. An analysis of internal and external factors is an important element of the paper.

The model can be applied to examine transformation of the whole economy and different sectors. Moreover, on the base of the model one can compare transformation of different sectors of economy in given countries. Then, it is also possible to compare real changes with the model. The model can be also applied in order to forecast and create scenarios.

2.2. Transformation of decision making system

The formula of the transformation of decision-making process can be formed:

$$D(t) = f(I_0, W_0, Z_t)$$

Explanation of symbols:

$D(t)$ – transformation of decision-making system within a period t ;

I_0 – initial factors / initiators of transformation (in the moment 0 – beginning of changes);

W_0 – internal determinants (analysed for initial moment of changes – 0);

Z_t – external determinants (analysed for process of transformation within a period t);

Initial factors of transformation cause basic change of decision-making process and make further steps of transition possible. Moreover, transformation of decision-making system depends on the power of internal determinants influenced transformation at the beginning, but also on external determinants conditioned consolidating process of changes within transition period (t).

Transformation of decision-making system concerns three types of changes:

- ◆ in the sphere of politics - a transition from authoritarian system to multiparty system of parliament democracy,
- ◆ in the sphere of economy - transition from central decision making system in the form of command and quota system to free and independent economic activity
- ◆ in the social sphere - a change of the idea of civil liberty, a transition from the division into large social groups (farmer, manual and office worker) into a division relating to an ownership factor (owner of means of production, hired worker), change of the system of values towards personal benefits, tolerance for different viewpoints, and social dialogue.

2.3. Transformation of patterns of behaviour

The transformation of patterns of behaviour formula can be written as follows:

$$N(t) = f(D_t, W_0, Z_t)$$

Explanation of symbols:

$N(t)$ – transformation of patterns of behaviour within a period t ;

$D(t)$ – transformation of decision-making system within a period t ;

W_0 – internal determinants (analysed for initial moment of changes – 0);

Z_t – external determinants (analysed for complete process of transformation within a period t);

Transformation of patterns of behaviour is a function of transformation of decision-making system, because decentralisation and democratisation is needed in order to change both legal system and tradition. Moreover, one has to remark internal and external determinants of the changes.

This type of transformation can be analysed as change of formal and informal patterns of behaviour. The first group concerns the transition of legal acts in order to adjust law to market economy (constitution and legal regulations), while the second one - changes of customs, traditions, from passive attitude, ineffective managing to high economic activity and efficiency. The transformation of informal patterns of behaviour, which are hardly observable in the CEE countries (both in theory and practice) can be divided into three types of necessary changes:

moral norms – a change ordering to effective activities, carefulness for natural environment, predicting effects of present activities, observing regulations,

citizens' society – growth of citizens activity, development of social organisations,

trust of public sphere – transition to more trust in public institutions (government, parliament, president, courts, police, media, political parties etc.

2.4. Transformation of organisations

According to the model, the formula of organisations transformation is following:

$$O(t) = f(D_t, N_t, W_0, Z_t)$$

Explanation of symbols:

$O(t)$ - transformation of organisations within a period t ;

$D(t)$ – transformation of decision-making system within a period t ;

$N(t)$ – transformation of patterns of behaviour within a period t ;

W_0 – internal determinants (analysed for initial moment of changes – 0);

Z_t – external determinants (analysed for complete process of transformation within a period t);

Process of transformation of organisation depends on some variables, especially transformation of decision-making process, which seems to be basic for further transition. Moreover, one has to specify transformation of formal and informal patterns of behaviour, i.e. legal norms and new habits enabling effective change of organisations, especially in the case of enterprises and the state. Internal and external determinants influence also process of organisational change.

According to institutional approach, organisations are understanding as general subjects on the market. They can be divided into following categories: state, enterprise, local authorities, non-governmental organisations (including trade unions). The transformation of the state consists in change of its role in the economy, including all aspects of state functioning (education, health protection, financial institutions, e.g. banks organisation etc.). During transition one can observe such processes as reduction of the state intervention in economy and reform of state institutions. System of order and distribution has to be replaced by liberalisation activities and free market decisions. Completely different role of money in the economy means also creating new banking system. The transformation of enterprises concerns transition of property rights connected with privatisation processes, but also with establishing new private firms in former socialist countries. Moreover, introducing hard budget constraints (removal of subsidies) and competition on the market can be remarked. Decentralisation processes result in increase of role of local authorities

in the economy. New competencies, new rules of functioning and new tasks influence behaviour of local authorities. Whereas transformation of non-governmental organisations aims at subjective treatment of these institutions, because, even if they have existed in socialism, their role was been minimal. This change is mainly connected with informal behavioural transition, i.e. higher citizens activity, especially in the first stage of transformation.

All mentioned above types of organisations' transformation depend on many variables, e.g. change of decision making process, but also of formal and informal patterns of behaviour, which enable introducing organisational transition. Moreover, internal determinants influence dynamics of transformation, while external determinants favour increasing effectiveness of changes. In the paper, author does not aim at analysing effects of transformation, which have been tackled in the 9th WCTR (in relation to transport sector).

3. Determinants of transformation

Determinants of transformation can be analysed on two separate levels, i.e. in relation to initiators of changes (initial conditions), and internal and external conditions, which influence the process of transformation and its effects.

3.1. Initiators of changes

Transformation of the system, which began in Central and Eastern Europe at the end of 80's of the XX century (in some countries several years later) is one of the most important and spectacular phenomenon in the world at the turn of the century. One can identify many initiators of the changes. In the paper they are divided into following categories: - political factors, - economic factors. Among factors, one can distinguish elements generated at national level (internal factors) and generated at international level (external factors).

Table 1 Initial factors of the process of transformation in CEE countries

| Type of factors | Political | Economic |
|-----------------|--|---|
| Internal | Decay of social support for the socialist system reflected by: <ul style="list-style-type: none"> – Opposition activities – strongest in Poland under trade union Solidarity banner. – Progressive socialist governments' acceptance of reforming system (policy of Gorbaczev in Russia, so-called <i>perestroika</i>) | Lack of prospects for development of socialist economy resulting from: <ul style="list-style-type: none"> – Shortages on the market, chronic excess demand, – Lack of rational allocation of sources, – Decapitalisation of the property, – High external debt (in some countries). |
| External | <ul style="list-style-type: none"> – Lack of acceptance (by western countries) of political and economic system formed after second world war in Central and Eastern European countries – so-called cold war, – Political activities of moral authorities of the world directed at system changes in Central and Eastern Europe (special role of the pope – Pole John Paul II) | <ul style="list-style-type: none"> – Restrictions in flow of people, goods, services and capital, e.g. activity of COCOM, – Using external debt as an argument to intervene in economic policy, – Support (mainly financial) to opposition activities in Central and Eastern European countries. |

3.2. Determinants of transformation

Economic transformation depends on complex factors stimulating or weakening process of changes (Scheme of the determinants is presented on figure 2). Analysis of determinants consists of three stages:

- Identification of internal and external determinants influencing transformation,
- determination of indicators (how to measure peripheral location, the condition of the economy at the “zero point” – beginning of the transformation etc.), in order to assess factors in different countries,
- giving marks for determinants, defining scale from 0 to 3, where – 0 means that given factor does not influence transformation or influence negatively, 1 – small influences, 2 – meaningful influence of given factor, 3 – very positive impact on transformation process.

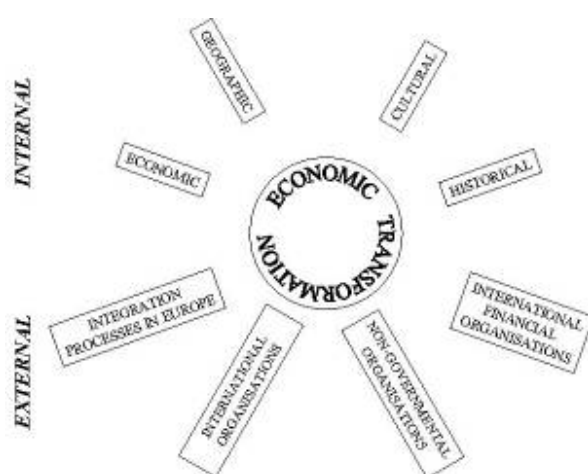


Figure 2 Scheme of determinants of transformation process

Table 2 Internal and external determinants of transformation

| Internal determinants | External determinants – external institutions influence |
|---|--|
| Geographic ➤ <i>peripheral location,</i> ➤ <i>neighbourhood,</i> ➤ <i>geographic potential</i> ➤ <i>potential of tourism development</i> ➤ <i>urbanisation</i> | Process of European integration – influence of EU institutions |
| Cultural: ➤ <i>ethnic characteristics of societies</i> ➤ <i>religion</i> ➤ <i>relations with European culture</i> | Influence of international financial institutions (World Bank, IMF, EBRD, EIB) |
| Historical: ➤ <i>tradition of independence</i> ➤ <i>post-communism heritage</i> ➤ <i>reforming socialist system</i> ➤ <i>internal conflicts</i> | Influence of inter-governmental institutions (OECD, NATO) |
| Economic: ➤ <i>national wealth</i> ➤ <i>share of private sector in the economy</i> ➤ <i>trade dependence (from CMEA)</i> ➤ <i>under-industrialisation</i> | |

It has to be remarked that determinants are part and parcel of the package, which as a whole influence all elements of transformation process. It cannot be unequivocally claim that a given determinant has a major role, because while analysing changes of organisations (e.g. enterprises), economic factors will be more important that cultural, but in relation to transformation of informal patterns of behaviour cultural determinants will be crucial.

Geographic determinants

The process of transformation proceeds in different way depending on geographic factors. Rich natural resources and tourist attractiveness can stimulate transformation of the economy and accelerate economic growth, while peripheral location and low level of urbanisation renders process difficult. Table 3 presents theoretical approach (practical gradation of marks is presented in Appendix).

Table 3 Geographic determinants of economic transformation – theoretical aspects

| Type of determinant | Description of determinant | Indicator |
|----------------------|--|--|
| Peripheral location | Geographic location in the centre of continent or peripherally | Distance from central point of the continent (calculated taking into account geographical coordinates of the states located externally in enlarged 2004 European Union) – Berlin |
| Neighbourhood | Political and social systems of the neighbouring countries, condition of the economy of the countries | Percentage share of length of the borders with countries characterised “old” market economies |
| Geographic potential | Natural resources, configuration of the territory (lowland, mountainous), sea access, transit location | Consideration four elements (gradation of marks depending on number of positive factors) |
| Tourist potential | Tourist attractiveness favouring tourism development (climate, natural attractions, etc.) | Gradation of marks depending on occurrence of tourist attractiveness |
| Urbanisation | Location of population on urban and rural areas, population dealing with agricultural and non-agricultural professions | Percentage share of population located in urban areas |

Cultural determinants

Cultural determinants have still influenced significantly economic development. Also in the transformation processes cultural factors have an impact on effectiveness and rate of change.

Table 4 Cultural determinants of economic transformation – theoretical aspects

| Type of determinant | Description of determinant | Indicator |
|--------------------------------------|---|--|
| Ethnic characteristic of the society | Uniformity or ethnic diversification of the society | Percentage share of the population belonging to major ethnic group |
| Religion | Diversification of religions declared by society, religion fundamentalism | Type of religion declared by population and its percentage share |
| Relations with European culture | Historical affiliation to the European culture | Determination of cultural affiliation of the society |

Historical determinants

Historical aspects are the next type of internal determinants influenced transformation. Cutting off historical base of changes is very difficult, even during some years of transformation.

Table 5 Historical determinants of economic transformation – theoretical aspects

| Type of determinant | Description of determinant | Indicator |
|----------------------------|---|--|
| Tradition of independence | Experiences of functioning as an independent state | Year of gaining independence |
| Post-communism heritage | Heritage resulting from existence of social and economic socialist system | Number of years under centrally planned economy |
| Reforming socialist system | Experiences of socialist system reforming | Gradation depending on scale of reforms of the system and experiences connected with capitalist system functioning before the second world war |
| Internal conflicts | Armed or non-armed conflicts, ethnic, religion problems | Gradation depending on scale and intensity of internal conflicts (after the second world war) |

Economic determinants

Economic determinants of transformation should be understand as a factors relating to the condition of the economy at “zero point” – the beginning of the process.

Table 6 Economic determinants of economic transformation – theoretical aspects

| Type of determinant | Description of determinant | Indicator |
|---|---|--|
| National wealth | GDP at the beginning of transformation | GDP per capita in 1989 |
| Share of private sector in the economy | Private property in some sectors of the socialist economy | Percentage share of private sector in GDP in the beginning of transformation |
| Trade dependence (from CMEA – the Council for Mutual Economic Assistance) | Trade dependence in the range of export and import from CMEA | Proportion of trade with CMEA to GDP (in 1990) |
| Under-industrialisation | Excessive engage of economic factors in industry, underdeveloped other sectors, especially services | Under-industrialisation indicator defined by de Melo (World Bank) as a difference between real share of industry and estimated optimal share (regression analyses used to calculate optimum, e.g. method of Chenery) |

External determinants

External determinants of economic transformation rise from international environment of transition countries. In practice of 90's of XX century the situation on integrated EU market and directions of policy of the EU and USA have a major significance. It has to be added that while internal conditions influence mainly initial stages of transformation, external factors determine process for long term.

Table 7 Characteristics of external determinants of economic transformation

| Type of determinant | Description of the determinant | Positive impact | Negative impact |
|---------------------------------------|---|--|---|
| EU integration | EU enlargement | Impact on economic policy, contracts of association, cooperations, financial support | Lack of perspectives of membership in the EU – lack of good patterns of legal changes, lack of financial support stimulating transformation |
| Other intergovernmental organisations | Cooperation with international organisations, membership | Political, economic and financial advantages of membership in some organisations | Lack of stimulation transition processes from the side of international institutions |
| International financial organisations | Activity of financial organisations, i.e. International Monetary Fund, World Bank, European Bank for Reconstruction and Development, European Investment Bank | Financial support, preferential loans accelerating positive effects of transformation | Lack of financial support hindering changes, risk of increase of negative effects of transformation |
| Non-governmental organisations | Activities of organisations in the social sphere (e.g. Freedom House, Amnesty International, Transparency International, Caritas, Greenpeace International, Red Cross, The International Confederation of Free Trade Unions (ICFTU), International Helsinki Federation for Human Rights | Easier changes of informal patterns of behaviour, direct support reducing negative effects of transformation | Lack of good examples of social activity, reducing chance for quick move towards citizens' society |

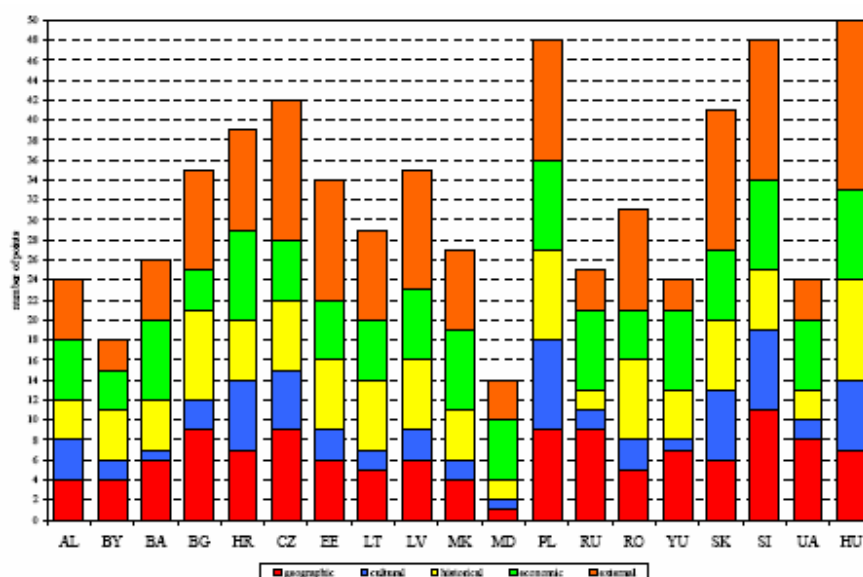


Figure 3 Valuation of determinants pressure on transformation in 19 Central and Eastern European countries

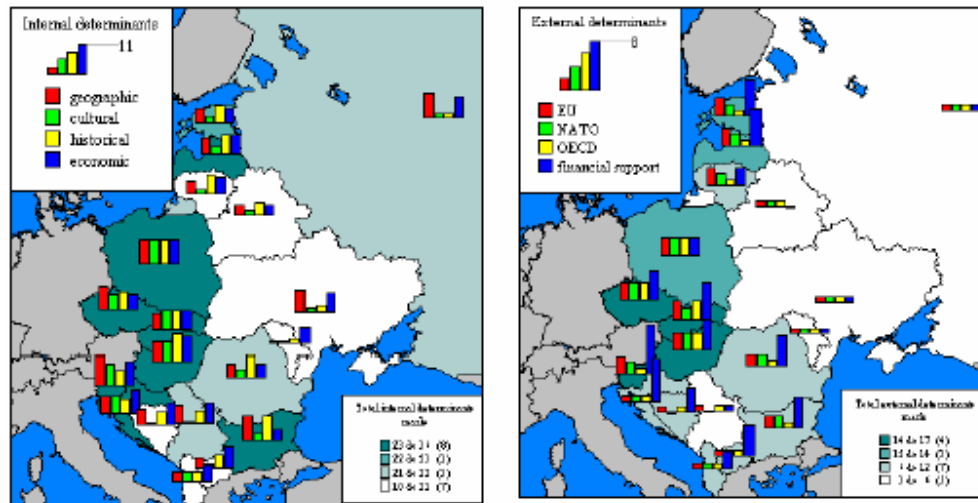


Figure 4 Maps presenting valuation of internal and external determinants

Practical analysis of impact of all determinants in the CEE countries is presented in the appendix and it covers 19 post-communist NATO countries (name of countries are specified in the Appendix).

The results of the determinants estimations are presented on figure 3 and on maps (figure 4). For detailed data – see Appendix.

Geographic factors influenced positively transformation in the Czech Republic, Slovenia and Bulgaria, while cultural determinants in such countries as Poland, Slovenia, Croatia, Slovakia and Hungary. Historical factors have a positive impact in Hungary, Bulgaria and Poland. The best economic conditions for transformation can be observed in Poland, Croatia, Slovenia and Hungary. Summing up total internal and external determinants one can say that factors influence positively transformation in such countries as Hungary, Poland and Slovenia, while in Moldavia and Belarus their impact is negative.

4. Verification of the theoretical model in transport sector

4.2. Decision-making system

The general direction in the range of decision making system consists of shift from major role of the state in the economy to decentralisation and increasing role of enterprise in free market conditions. Decentralisation is required in order to make transport market possible to function and private enterprises (especially in the area of road transport) to operate. Reduction of state interventionism is thus necessary, however, on the other hand, the powers of central authorities will include such important tasks as legislation, security, environment protection.

Of course, in relation to specific modes of transport, change of state activity considerably differed. The general modal characteristic of the changes can be summarised as follows:

- Road freight transport - deregulation,
- Road passenger transport (buses) – demonopolisation,
- Rail transport – restructurisation
- Air transport – liberalisation,
- Urban transport, maritime transport and inland waterway transport – decentralisation of management.

4.3. Patterns of behaviour

The spectacular change in formal patterns of behaviour consists in establishing of transport policy documents according to free market economy and new conditions of transport activities. Documents on transport policy have been created in 90's in CEE countries, e.g. in the Czech Republic in 1993, in Hungary in 1996, in Latvia in 1995, in Lithuania in 1994, in Poland in 1995. Of course, during transformation documents have been modified, changed or even replaced, but generally new transport policies meet requirements of market system.

The objectives of transport policy in CEE countries are parallel, because activities of central authorities are to serve in overcoming similar difficulties which result from a long standing functioning of transport in an economy administered centrally. The disparities can result from different hierarchy of priority objectives and strategy of activities (Bak, 1999). The objectives of transport policy in CEEC can be divided into following categories:

- ◆ market operations: setting the principles of market regulation and fair competition in market economy,
- ◆ market organisation: changing organisational structures, encouraging privatisation processes of transport undertakings,
- ◆ infrastructure issues: modernisation of infrastructure, creation of highly advanced transport infrastructure, especially in road and rail transport,
- ◆ adapting to European transport system: adjustment to EU, legal adapting to Single Market, approving international conventions,
- ◆ social aspects of transport functioning: improvement of services' quality, decrease of harmful influence of transport on environment.

Transport policy is an important basis for next legal changes (as constitution in general legal order). Complete change of legal system regulating transport sector is needed during transformation. The countries aimed at membership in the EU have a good pattern and guide for legal changes resulting from adjustment processes. Other countries very often tried to find their own way of legal changes, though in many times the direction of transformation has not been compatible with free market rules.

Transformation of informal patterns of behaviour has not been so spectacular in relation to transport sector. The changes mainly consist in reducing ineffective management and hypocrite approach.

4.4. Organisations

State

Though general direction of transformation in the range of the state is to reduce interventionism on the market, it must be remembered that an important task of central institutions in the area of transport is to finance transport in respect of both public service obligation and infrastructure investments. The tasks resulting from transport policy on the European level and including such aims as sustainable mobility, reduction of external cost of transport, internalisation, new pricing system for infrastructure use – require involvement of the state.

Organisation and management of the transport infrastructure network is a subject to transformation. Several general features of the road management system before the beginning of transformation can be mentioned:

- Totally centralised network management and financing system (especially in the case of road network);
- Excess of bureaucratic structures;

- No control over funds allocation;
- No stimuli whatsoever to create clear decision taking rules.
- Taking the most spectacular road administration, one can notice that the changes in the CEE countries have to consist in (ScenesD3b, 2000):
 - decreasing the scope of powers of state agencies in the area of the management of specific production and service activities relating the renovation and maintenance of road and bridge surfaces; modernisation of facilities and new investments.
 - decentralising activities in the area of road financing and management (decentralisation processes have been carried out only in some CEE countries, e.g. In Poland, Hungary, Estonia and Lithuania).

Another type of changes of the state in relation to transport concerns infrastructure financing, from the state budget to different forms of financing investment, e.g. public private partnership (practiced in Poland, Hungary, Czech Republic).

Enterprise

Processes in this type of transformation can be analysed in different modes of transport, since they considerably differ between modes. But general and common feature of transport enterprise transformation is to liquidate monopolistic and oligopolistic structure of the market.

In the period prior to system reforms certain features common to the **road freight transport** in the CEE countries can be observed (Rydzkowski, 1997):

- Domination of transport for one's own purposes,
- Both in respect of domestic and international transport and the state sector was dominated by large monopolist enterprises (e.g. Hungarocamion/Hungary, Pekaes Autotransport/Poland, CSAD/Czech Republic).

The major structural changes on road freight transport market result from deregulation and privatisation of enterprises. In all of the CEEC, privatisation of the freight sector has proved much easier than privatisation of the passenger transport sector, where the huge losses of the public service providers have frightened off private investors and imposed a number of constraints. Privatisation of the road transport sector has meant the entry into the market of tens of thousands of firms in all of the CEEC.

Generally, privatisation has taken one of the following forms: mass privatisation (issues of share vouchers to the general public); sell-offs to employees and management; or sales by auction, usually to large foreign investors. Mass privatisation was used in the Czech Republic, and is under consideration in Romania, Bulgaria, Latvia and Estonia. The advantage of mass privatisation is its speed, but the drawback is that it does not provide any injection of new capital for firms that sorely need it. Sell-offs to employees have been most common in Slovenia, a country with long experience of workers' self-management, and in Poland and the other countries referred to above. Direct sell-offs have been widely used in Hungary to attract genuine buyers who are ready to inject capital into firms and modernise them (Burniewicz, 1996).

The CEEC noted a rapid increase in the number of private firms, all of them small enterprises (usually 1 or 2-vehicle operations). In most cases these firms purchased second-hand vehicles from state-owned enterprises or from dealers from the West.

In the late 80's **interurban passenger transport** in the CEE countries was characterised by a monopoly in the form of state ownership of transport means concentrated in one or several enterprises. Even when there were several companies (e.g. four PKS enterprises in Poland) they divided the market among themselves on a purely administrative basis. Those enterprises had exclusive rights to interurban road transport.

In respect of international transport there was no free bus transport market either. The operators of international leisure transport were usually travel agencies that provided transport services using its own coach fleet. In addition to that a small portion of transport services was provided by state-owned transport enterprises having their own bus fleets.

It should be noted that where in road freight transport a total market reorganisation was made and a real free market appeared, the processes with respect to bus transport were much slower. In most of the countries a demonopolisation took place by way of splitting the formerly operating centrally managed state-owned enterprises, however it was difficult to speak that those carriers faced significant competition from new private carriers in that period. Divided though the former state enterprises were, they operated in strictly specified areas, and in fact, there were no conflicts of a competitive nature among them. They effectively eliminated private carriers by denying them access to the station and stop infrastructure that was their property.

Following the division of enterprises and demonopolisation there should have come actions aimed at a decentralisation the subsidising of intercity transport and assigning the powers to local and regional authorities. In reality such actions have not been taken in most of the CEE countries.

Before transformation started, in the **urban public transport** services were provided by state-owned enterprises whose founding bodies were state administration agencies. Each urban public transport enterprise served an area specified in its statutes. Within such area the enterprise provided urban public transport services on an exclusive basis. The transformation brought a shift of responsibility for urban public transport operations from field agencies of state authorities into local authorities (Scenes, 2000).

The economic system of urban public transport enterprises did not ensure their rational operation. While being both carriers and organisers the enterprises were not interested in high quality of services and cost level minimisation. The enterprises' founding bodies were not prepared to assess the transport offer and the degree of its realisation. As a result, the scope of transport services was subordinate not to transport postulates but to particular interests of the carrier. Owing to the manner of subsidising, it was possible to cover the costs of irrational transport activity with budgetary resources. There were no stimuli to keep the enterprise's own costs at a low level. Showing a relative decrease of the enterprise's own costs could constitute a basis for decreasing the total subsidy amount in the following year.

The approach of local authorities to urban public transport restructuring is to adopt one of the three following concepts:

- maintaining the existing solution in respect of organisation and administration with a modification of relations between public authorities and urban public transport enterprises;
- deregulation of urban public transport by way of providing access to transport operations organised by carriers on their own;
- separating organising and transport activities and providing competition among carriers.

The situation of **rail transport** in socialist countries has differed considerably, however the common feature was general big share of the mode of transport in total carriages. Since the middle of 80's the railway's share in the market for both goods and passenger transport has declined considerably. There are many factors behind this underlying trend. Most of them lie outside the rail sector and are linked to socio-economic changes and policy choice that have favoured the growth of road transport. Some however, originate within the rail sector. There is an increasingly pronounced mismatch between the organisation of rail transport services and rapidly changing patterns of demand. In some cases the services on offer no longer correspond to the requirements of the market, parts of which have changed substantially, particularly with the

development of a demand for transport on extremely short notice (to serve just-in-time production needs) and by small loads.

Objectives of restructuring of many railway companies in the CEEc can be summarised as (Scenes, 2000):

- Growth of railway transport share in transport market,
- Achieving profitability, decreasing costs,
- Improvement of passenger and freight transport offer,
- Improvement of safety standards,
- Preparation for competition within the UE,
- Strengthening public transport in agglomerations,
- Vocational activation of railway employees.

Until 1989 in the politically divided Europe **air transport** operated in two separate transport regulation, air traffic control and safety systems. In the former CMEA, no air services market as meant by the liberal economy existed and the civil aviation sector was kept under strict administration and control of state authorities, air enterprises were owned solely by the state and air traffic control was closely connected with the national defence system.

In the communist states the air aviation sector was treated as an element of the defence system, however it obviously had to be linked with the world air system in some way. Where organisational and administrative structures of road or rail transport could be contained within national borders, making international flights required that world air systems and procedures be respected. Thus, there existed a spectacular contradiction between the will to treat aviation as a particularly important strategic element of a communist state and the necessity to participate in the international air systems.

The last years of the 20th century in the CEE countries are a period of adjustment works to the integration with the European Union. The conditions of such integration are set by both parties, however EU models and solutions are of basic importance. Notwithstanding some tension relating to differences in the interests of national carriers one succeeded in implementing the rules of fair competition, liberal access to markets, customer protection, air traffic safety guarantees, mutual recognition of the flying staff's qualifications. As a result some reductions in air fares, increase in the number of destinations and improvement of the quality of services could be observed.

Organisation and importance of **maritime and inland waterway transport** in CEE countries considerably differs. Therefore, it is very difficult to identify common direction of change in this field. But general changes were common and consisted in separating management of ports and carriers. Moreover, restructurisation and privatisation in relation to carriers can be described (to some extent also in relation to ports).

Local authorities

Owing to the restructuring processes of the economy, taking the specificity of the transport sector into account, it is possible to speak about a certain direction of changes that are at a more or less advanced level in different countries but have one common goal - decentralisation and increasing the powers of local and regional authorities.

In respect of transport the changes consist in transferring the responsibility for regional transport infrastructure administration, road infrastructure in particular, onto local and regional authorities. In respect of providing transport services changes are going in the direction of assigning the responsibility for public transport organisation and administration onto regional

institutions. It is local authorities that, to a larger and larger degree, become responsible for permits granting, environment protection, safety.

The increase of powers of regional and local authorities has not been the same in all CEE countries. It is only in Poland and Hungary that an actual assignment of many tasks from the central to the local level has been made (Scenes, 2000). In other countries there has been some growth of the powers of local municipal authorities responsible for the operation of public urban transport, however, regional authorities remain only field departments of central authorities with few possibilities of decision-making.

5. Application of the model

The model of economic transformation can be verified in specific sectors of the economy and can enable understanding of the process, its genesis, course and effects. Author tackled e.g. the problem introducing new pricing system for transport infrastructure use within IMPRINT project (Bak, 2003). Results of next studies tries to answer the question, how financial support of the EU can influence completion of transformation in the CEEC. The analysis covers not only direct impact of investment sources, but also influencing different elements of transformation in the model.

Ex-post analysis on the base of the model allows to answer the question why in some processes proceed more dynamic than in other, where changes are not so effective and negative effects exceed positive ones. One can also check, which sectors of the economy are more susceptible to transformation than others. Moreover, the model enables ex-ante analysis aiming at creating scenarios of last stage of transformation. One can, on the base of correlation of different elements of the model, predict how internal and external determinants as well as completed already processes will determine future changes and effects of transformation. The studies cover the whole economy, though for the aim of the paper, simplified example of building scenarios on the base of model can be presented.

In scenarios determination three elements have to be included, i.e. determinants of transformation, process of institutional change (decision-making, patterns of behaviour and organisations) and effects of changes. The latest element can be divided into following groups:

- technical/infrastructure effects (modernisation of the economy, innovations etc.),
- social effects – positive and negative, e.g. unemployment,
- structural – change of structure of the economy, role of given sectors, et.

Four simplified scenarios of transformation are presented schematically on figure 5.

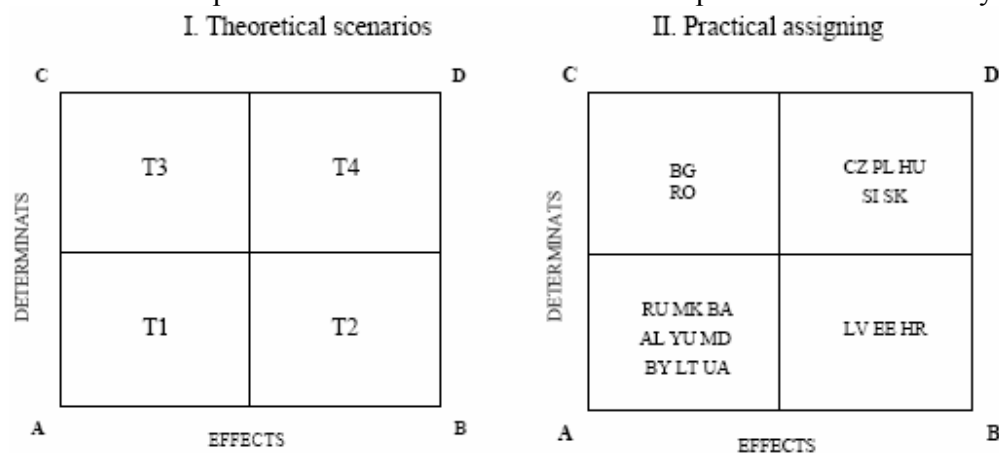


Figure 5 Scheme of scenarios of transformation

- A - “zero point” of the analysis, lack of effects, determinants influenced negatively transformation.
- B - high level of positive effects of transformation with negative determinants of changes,
- C - positive determinants, which do not generate positive effects of transformation.
- D - positive effects accompanied by positive impact of determinants.

The figure present theoretical assumption of the scenarios. The scenarios can be named as follows:

T1 – “*post-socialism*”,

Determinants as barriers for transformation, small positive effects of process and increasing negative aspects,

T2 – *gainful work*”

Determinants nor very positive, but visible positive effects of changes resulting from accelerating process of transformation of institutions,

T3 - „*loosing chance*”

Very positive determinants of transformation, but processes of change slow, abandonment, delays, other barriers. Results – weak effects,.

T4 - *happy end*”

High level of positive conditions, very efficient transformation of institutions, resulting in positive effects of changes.

Taking into consideration progress of transformation, determinants of changes and effects (up to now and future) specific countries have been assigning to mentioned scenarios of development. Results are shown on figure 5 (II. Practical assigning).

6. Conclusions

Economic transformation in Central and Eastern European countries is a very complicated process covering all sectors of the economy and social life. Establishing theoretical framework allowing to analyse changes has been difficult task for many years, since it has been necessary to have a historical perspective. In present paper, it is a trial to built the instrument, which enables to understand and study transformation in the CEE countries.

Transport can be treated as a good example to verify the theoretical model, because of its “network” character and links to many different economic sectors. On the base of model analysis, one can answer the questions, why in some countries (data covers 19 CEE countries) transformation is quicker and more effective than in others, why special emphasis should be put on transition informal patterns of behaviour, etc. In the paper, external and internal factors, which determine both start and the whole process of transformation, have been identified and analyse, both in theory and practise.

Application of the model to ex-ante studies seems to be very practical. It is possible to predict future scenarios of transformation of given sectors or even of given sorts of changes taking into consideration determinants of changes. Moreover, effects of transformation in the range of social, structural and technical categories can be identified and studied.

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Appendix

Valuation of internal and external determinants impact on the transformation process

Name of countries:

Albania (AL), Belarus (BY), Bosnia and Herzegovina (BA), Bulgaria (BG), Croatia (HR), Czech Republic (CZ), Estonia (EE), Hungary (HU), Latvia (LV), Lithuania (LT), Macedonia (MK), Moldavia (MD), Poland (PL), Romania (RO), Russia (RU), Serbia and Montenegro (YU), Slovakia (SK), Slovenia (SL), Ukraine (UA).

Gradation from 0 to 3:

- 0 - given factor does not influence transformation or influence negatively,
- 1 - small influences,
- 2 - meaningful influence of given factor,
- 3 - very positive impact on transformation process.

| INTERNAL DETERMINANTS | | |
|---|--|----------------------------------|
| Geographic | | Country |
| <i>Peripheral location</i> | | |
| 0 Distance in km of the capital from Berlin >1500 | | AL BG MK MD RU RO YU |
| 1 Distance in km of the capital from Berlin 1000-1500 | | BY BA HR EE LT LV UA HU |
| 2 Distance in km of the capital from Berlin 500-999 | | PL SK SI |
| 3 Distance in km of the capital from Berlin <500 km | | CZ |
| <i>Neighbourhood</i> | | |
| 0 Lack of capitalist neighbouring countries | | BY BA HR LV LT EE MD RO YU UA |
| 1 < 40% of total borders length with capitalist countries | | AL HU MK PL RU SK |
| 2 40% - 80% of total borders length with capitalist countries | | BG CZ SI |
| 3 > 80% of total borders length with capitalist countries | | - |
| <i>Geographic potential</i> | | |
| 0 Lack of significant natural resources, no sea access, disadvantageous geographic location | | - |
| 1 favourable one feature | | AL BY BA CZ EE LT LV MK MD SK |
| 2 Unfavourable one feature | | BG HR RO YU SI HU |
| 3 All features favourable | | PL RU UA |
| <i>Tourist attractiveness</i> | | |
| 0 Minimal tourism attractiveness of the country, unfavourable climate | | BY MD |
| 1 Climate rather unfavourable, but some potential exist | | CZ EE HU LV LT MK PL SK |
| 2 High potential, but not used totally in socialist times | | AL BA RO RU UA |
| 3 High potential, well developed sector | | BG HR YU SI |

Urbanisation

- | | | |
|---|---|-------------------------------------|
| 0 | < 50 % of total population leaving in urban area | AL MD |
| 1 | 50-59 % of total population leaving in urban area | MK RO SK |
| 2 | 60-70 % of total population leaving in urban area | BY BA BG HR CZ LT PL YU SI UA HU |
| 3 | > 70 % of total population leaving in urban area | RU EE LV |

Cultural

Ethnic characteristics of societies

- | | | |
|---|--|----------------------|
| 0 | <75% of total population belonging to one ethnic group | BA EE LV MK MD YU |
| 1 | 75-85% of total population belonging to one ethnic group | BY BG HR CZ LT RU UA |
| 2 | 86-95% of total population belonging to one ethnic group | AL HU RO SK SI |
| 3 | >95% of total population belonging to one ethnic group | PL |

Religion

- | | | |
|---|---|--|
| 0 | Lack of dominating religion (religion of more than 50% of total population) | BA |
| 1 | Domination of non-catholic religion (Orthodox, Islamic) | AL BY BG MD RO RU MK EE LV LT YU UA |
| 2 | Domination of Roman Catholics, but high share of atheists in society | CZ HU SK |
| 3 | Domination of Roman Catholics (religion of more than 80% population) | HR PL SI |

relations with European culture

- | | | |
|---|--|-------------------------|
| 0 | Historical affiliation to the East culture | LT RU MD UA BY RO YU |
| 1 | Close relations to Islam culture | BG MK BA AL |
| 2 | Close relations to north European culture | EE LV |
| 3 | Affiliation to western European culture | HR CZ PL SK SI HU |

Historical

Tradition of independence

- | | | |
|---|---|----------------------------|
| 0 | Independent country from the beginning of transformation | BY BA HR MK MD YU SI UA |
| 1 | Independent country from the beginning of transformation, but some traditions existing before (joint nations or short period of independence) | CZ SK UA LT LV EE |
| 2 | Independent country after second world war | HU PL |
| 3 | Independent country before second world war | AL BG RO RU |

Post-communism heritage

- | | | |
|---|--------------------------------|--|
| 0 | > 65 years of socialist system | BY MD RU UA |
| 1 | - | |
| 2 | < 65 years of socialist system | AL HR BA BG CZ EE HU LV LT MK PL RO YU SK SI |
| 3 | - | |

Reforming socialist system

- | | | |
|---|---|----------------------------|
| 0 | Clean form of socialist system | BY MD RU UA |
| 1 | Historical traditions of capitalist economy development before the second world war | AL BG CZ EE LV LT RO SK |

- | | | |
|---------------------------|---|----------------------------------|
| 2 | Partly reformed socialist system, e.g. private property in some sectors | PL |
| 3 | Advanced reforms of socialist system, losing communist model | BA HR HU MK YU SI |
| <i>Internal conflicts</i> | | |
| 0 | Armed internal conflicts | AL BA MK RU YU |
| 1 | Armed conflicts quickly finished | HR SI |
| 2 | Internal conflicts without military operations | MD RO |
| 3 | Lack of significant internal conflicts | BY BG CZ EE HU LV LT PL SK UA |

Economic

National wealth

- | | | |
|---|--|----------------------------|
| 0 | Poor countries, where GDP per cap. < 2500 USD | AL |
| 1 | GDP per cap. on the level between 2500 – 5000 USD | BG MK MD RO |
| 2 | GDP per on the level between 5001 – 7500 | BY HR LT PL UA HU YU BA |
| 3 | Relatively “rich” countries, where GDP per cap. > 7500 USD | SI SK CZ RU LV EE |

Share of private sector in the economy

- | | | |
|---|---|---|
| 0 | Share of private sector in the economy < 15% of total GDP | AL CZ |
| 1 | Share of private sector in the economy 15-30 % of total GDP | HR EE MK MD RO RU SK UA SI BA YU RU BG BY |
| 2 | Share of private sector in the economy 31-45% of total GDP | LT LV HU |
| 3 | Share of private sector in the economy > 45% of total GDP | PL |

Trade dependence (from CMEA)

- | | | |
|---|---|----------------------------------|
| 0 | Proportion of foreign trade with CMEA to GDP > 30% | BY EE LT LV |
| 1 | Proportion of foreign trade with CMEA to GDP between 21 and 30% | UA |
| 2 | Proportion of foreign trade with CMEA to GDP between 10 and 20% | BG MD RU HU |
| 3 | Proportion of foreign trade with CMEA to GDP > 30% < 10% | AL HR CZ MK PL RO SK SI BA YU |

EXTERNAL DETERMINANTS

Process of European integration – influence of EU institutions

- | | | |
|---|---|-------------------------------|
| 0 | Lack of contacts | - |
| 1 | Financial support, institutional framework of cooperation (TACIS, funds for Balkan countries) | RU BY UA MD HR BA YU MK AL |
| 2 | Associated country (perspective of membership in short term) | BG RO |
| 3 | Accession country – member of the EU from 1/05/2004 | CZ EE LT LV PL SK SI HU |

Influence of inter-governmental institutions (OECD, NATO)

- | | | |
|-------------|----------------------------------|--|
| <i>OECD</i> | | |
| 0 | - | - |
| 1 | Contacts with OECD | AL BY UA MD HR BA YU MK EE LT LV SI BG RU RO |
| 2 | - | - |
| 3 | Member country of OECD from 1996 | CZ PL SK HU |

NATO

- | | | |
|---|--|-------------------------|
| 0 | Interventions of NATO, e.g. SFOR in Bosnia and Hercegovina, lack of partnership programmes | YU BA |
| 1 | Partnership programmes (<i>Euro-Atlantic Partnership Council</i>) | AL BY HR MD MK RU UA |
| 2 | Close cooperation, member country from May 2004 | BG EE LV LT RO SK SI |
| 3 | Member country from 1999 | PL CZ HU |

Influence of international financial institutions (World Bank, IMF, EBRD, EIB) – disbursement of funds until the end of 2002

World Bank

- | | | |
|---|--|----------------------------|
| 0 | Disbursement < 50 USD per 1000 citizens | BY YU |
| 1 | Disbursement between 50-100 USD per 1000 citizens | CZ EE LT MD PL RU SK UA |
| 2 | Disbursement between 101-150 USD per 1000 citizens | AL BG LV RO SI |
| 3 | Disbursement > 150 USD per 1000 citizens | BA HR MK HU |

EBOR

- | | | |
|---|--|----------------------------|
| 0 | Disbursement < 50 EUR per 1000 citizens | AL BY BA MD PL RU YU UA |
| 1 | Disbursement between 50-100 EUR per 1000 citizens | BG CZ LT MK RO |
| 2 | Disbursement between 101-150 EUR per 1000 citizens | LV SK HU |
| 3 | Disbursement between > 150 EUR per 1000 citizens | HR EE SI |

EIB

- | | | |
|---|---|-------------------|
| 0 | Lack of financial support | BY MD RU UA |
| 1 | Signed projects 1-100 EUR per 1000 citizens | AL BA HR LT MK YU |
| 2 | Signed projects 101-200 EUR per 1000 citizens | BG EE LV PL RO |
| 3 | Signed projects > 200 EUR per 1000 citizens | CZ SK SI HU |

Financial institutions data:

Data concerns funds from the beginning of transformation until the end of 2002.

Data of World Bank and EBRD-gross disbursements (instead of commitments),

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