

Marek RATAJCZAK
The Poznań University of Economics

Infrastructural conditions of Poland's integration with the European Union

1. Introductory comments

Poland, not unlike a vast majority of former European member states of the Council for Mutual Economic Aid, is seeking accession to the European Union. The public opinion's interest in the negotiations related to this fact is mainly focused on areas considered as particularly difficult (e.g. the issue of free access to the labour markets of the current EU member states or the right to acquire land in Poland for the citizens of other countries).

Undoubtedly, as compared with these negotiation areas, which are given the widest media coverage, the issues concerning infrastructure (including primarily transport, telecommunications and power industry) may be considered as quite conflict-free and even relatively insignificant from the point of view of the conditions of Poland's integration into the European Union. However, in real life, it is just infrastructure that constitutes one of the most essential integration conditions. And undoubtedly, it would not be right to state that just the shortcomings in infrastructure development presented later in this study are the main source of difficulties in the process of Poland's accession to the European Union. Yet, at the same time, the judgement that the condition of infrastructure is insignificant for the negotiation process would be erroneous. The problem consists in the fact that in order for Poland to decrease economic and social distances from the majority of previous member states of this integration group, there would have to be a dramatic improvement in the area of transport infrastructure in particular. The upgrading of infrastructure is, in turn, linked with the necessity of substantial expenditure, partly out of own finance and partly out of the finance acquired from various Union sources. This in turn indicates that Poland, even just because of the size of its territory or population, may be, and really is, perceived by some member countries of the European Union as a competitor from the point of view of participation in the Union's funds in the future. Therefore, it is not surprising that Spain, for example, is still trying to obtain guarantees that the accession of Poland and other Central and East

European countries to the Union will not diminish the finance Spain acquires from the Union and appropriates in big part for infrastructure development.

2. Infrastructure and its role in the socio-economic megaspace

Within infrastructure, one can most often distinguish economic and social infrastructures, of which the former generally includes transport, communications, power industry and water economics. Social infrastructure includes primarily science, education, health care and culture.

In infrastructure, one can single out what are called material capital and intellectual capital; the former is primarily various point-like and linear structures characterised by territorial stability. Intellectual capital includes people who operate material infrastructure components for direct rendering of services or whose work enables the use of material capital components.

The analysis included hereunder will focus on infrastructure narrowed down to the material capital of economic infrastructure, which stems from two premises. Firstly, economic infrastructure plays a significant role as a condition of international economic co-operation, which is linked with its primary function: to ensure the movement of people, matter, energy and information. Secondly, the level of development and functioning reliability of economic infrastructure is, first and foremost, determined by the condition of material capital. In social infrastructure it is, to some extent, possible to compensate for shortages in material capital with the virtues of intellectual capital. In the case of economic infrastructure, the opportunity to level insufficiencies of material capital with the use of higher or better usage of intellectual capital is minimal.

As has already been emphasised, infrastructure plays a special role as a development factor for international economic relations and, at the same time, a development factor for socio-economic megaspace, which is the geographic space developed by man across the territories of several countries. The development of megaspace should be linked with gradual removal of any, except for natural, barriers and limitations on free flow of people, goods, information and capital.

In other words, the above postulate may be expressed as an idea of the gradual scaling down of what is referred to as economic and social distances, which separate individual economies and societies¹. Those distances are a result of various factors, one of whose important determinants is the level of economic infrastruc-

¹ L. H. Klaassen, J. H. P. Paelinck, S. Wagenaar, *Systemy przestrzenne*, PWN, Warszawa 1982, p.64.

ture including, primarily, transport and communications, as well as power industry and water economics.

Infrastructure plays a special role as a development factor for international economic and extra-economic relations and, at the same time, as a development factor for social and economic megaspace. As emphasised earlier, it is related to the roles played by infrastructure and, first of all, to its function of moving people, products, energy and information. Infrastructural links, with communications links in particular, constitute one of the primary determinants of making socio-economic life international, the essence of which is a continuous growth and transformation of mutual relations between separate economic and social bodies.

The role of infrastructure in the realm of international relations is larger as the links between states and nations are richer and more variable. While a limited development of external infrastructural links is a normal status quo for isolationist and autarchic tendencies, the more open the nature of the state and the economy the larger the need to treat improvement in infrastructure of cross-border significance as one of the important components of a development strategy being pursued. Infrastructure impinges directly on competitiveness and closely related adaptation and absorption capabilities of every economy.

Far-from-satisfactory mutual infrastructural connections as well as a small extent of alterations from the period of previous economic co-operation may indicate a low effectiveness of the international economic integration process, where institutional integration is not accompanied by real economic integration.

One should not treat links between internationalisation of socio-economic life and infrastructure as a one-sided relationship, where infrastructure solely plays a role of a condition for internationalisation. In fact, it is a feedback relationship. Changes in infrastructure related to internationalisation of socio-economic life, the effects of autonomous steps made by both the state and international projects, entail a growth in mutual relationship between the infrastructural systems of separate economic bodies.

The process of infrastructure transformations should lead to the development of a cohesive and ordered international infrastructure network and can be referred to as infrastructuralisation on an international scale. Infrastructuralisation is related primarily to the development of linear structures, leading to the development of infrastructural network systems, which extend across more than one country. As infrastructuralisation strengthens, it is more and more legitimate to use the concept of international infrastructure.

Talking about international infrastructure, we are taking into consideration its narrow meaning, encompassing the system of structures directly used in international relations, and in international economic co-operation in particular. A broad interpretation of international infrastructure is also possible, which in this case covers the entire infrastructure networks of various countries, as all infrastructure ele-

ments participate in the creation of general conditions for international relations development. With the strengthening of internationalisation of socio-economic life, the line between international infrastructure *sensu stricto* and international infrastructure *sensu lato* becomes less and less visible. International infrastructure (*sensu stricto*) includes both international structure “in the very nature of things”, such as border bridges or tunnels, as well as structures located on the territory of one state, such as harbours of international importance and linear structures crossing the territories of two or more countries².

From the standpoint of Central and East European countries’ expectations of capital inflow from developed market economies, special attention needs to be paid to the importance of infrastructure as one of the fundamental determinants of potential regional attractiveness and regional location profile³.

Infrastructure, and communications infrastructure in particular, not only is an important location factor itself, closely related to a specific area, and shortages of which cannot, in principle, be compensated for with importation; it also determines the possibility of using other location factors. Infrastructure can also moderate, to some extent, the shortages of other location factors. However, possibilities of compensating for shortages of infrastructure with the virtues of other location factors are much more limited. Therefore, the smaller the attractiveness of all location factors, the bigger the significance that a potential investor attributes to any infrastructure shortcomings⁴. And in the case of businesses from highly developed market economies, infrastructure often enjoys much higher priority in the hierarchy of location factors than, for example, inexpensive and available labour.

3. Infrastructural gap

In the analyses of the necessary changes in the sphere of infrastructure and its services in the countries under transformation, two basic aspects of the transformation receive attention⁵. The first one is a need for infrastructural development understood as increasing the infrastructural elements of the national property of par-

² J. P. Baumgartner, *Critères de choix des investissements dans les infrastructures des transports internationaux*, TRANS/SEM.5/R.1, 1986, United Nations – European Economic Commission, p. 4-5.

³ J. H. P. Paelinck, *Investment and the development of backward regions*, in: *Investing in Europe's future*, Basil Blackwell, Oxford 1983, p. 156-161.

⁴ D. Biehl, *The Contribution of infrastructure to regional development*, European Communities, Luxembourg 1986.

⁵ *Transition Report 1996: Infrastructure and savings*, European Bank for Reconstruction and Development, London 1996, p. 54.

ticular countries. The other aspect of the necessary transformations in the sphere of infrastructure in the countries of Central and Eastern Europe refers to the principles of the functioning of infrastructural elements of the economy. The command economy was characterised by a clear tendency to restrain the development of infrastructure. The limitation of the development of infrastructure was reflected not only – and in the case of certain infrastructure not so much - in the quantitative indicators, but also in the qualitative ones.

The quantitative aspect of differences in the level of infrastructure between the countries under transformation and the remaining European countries is presented in the Table below. The data illustrate the state from the mid-eighties but, because of a characteristic slow pace of changes (particularly for the linear parts of the infrastructure), the figures from Table 1 can be considered, to a large extent, as adequate for the situation of the infrastructure of European countries at the beginning of the nineties as well.

Giving general and brief characteristics of the infrastructural situation of Poland in the pre-transformation period, it should be noted that a typical feature of that period was the lack of equilibrium between the development of infrastructure and the growth of demand for its services. The implemented strategy of social and economic development was connected, on the one hand, with limitation of the outlays for infrastructure, so that many of its links were characterised by the quantitative and qualitative underdevelopment (the most neglected spheres were telecommunications, water economy along with inland water transport and protection of the natural environment). On the other hand, the same solutions led to the expansion of demand for infrastructural services.

An unfavourable feature of the development of infrastructure in Poland was also its lack of complex character. This was reflected in: 1) disproportion and the lack of coherence in the development of main infrastructural sectors; 2) disequilibrium in the development of the elements of particular sectors of the infrastructure, especially transport (e.g. giving priority to the rail transport on the one hand and underestimating the significance of inland water transport on the other); 3) limiting the necessary range of particular infrastructural investments. “Economical”, i.e. maximally limited, infrastructural undertakings were responsible for the fact that Poland’s infrastructure could not meet the growing demand for services due to the lack of reserves. Another significant problem was the increasing difficulties connected with the condition and depreciation of infrastructural facilities. Highly depreciated infrastructural equipment was a result of both insufficient outlays for the modernisation of infrastructure and demand for infrastructural services not proportional to the country’s economic performance.

There is no doubt that in Poland, as in other countries under transformation, a significant development of infrastructure is absolutely necessary. However, this general conclusion calls for answering a series of additional questions. The first

Table 1. Synthetic indicators of the level of development of economic infrastructure in the European countries in 1984 (in points)

Countries	Indicator	Place
Luxembourg	76.1	1
Sweden	67.5	2
Switzerland	65.9	3
Norway	62.7	4
The Netherlands	57.3	5
Denmark	55.5	6
West Germany	54.7	7
Belgium	54.6	8
France	52.0	9
Great Britain	48.2	10
Austria	47.5	11
Finland	42.5	12
Italy	41.5	13
East Germany	35.1	14
Ireland	29.5	15
Spain	29.4	16
Czechoslovakia	27.6	17
Greece	25.2	18
Bulgaria	22.9	19
Poland	20.5	20
Hungary	18.6	21
USSR	17.1	22
Yugoslavia	16.8	23
Portugal	16.7	24
Romania	15.1	25
Turkey	6.8	26

Source: Author's own calculations based on national statistics and statistics of the UN and CMEA. As regards the method of calculations see: M. Ratajczak (1990), *Infrastruktura a międzynarodowa współpraca gospodarcza w Europie*, KiW, Warszawa, p. 46-49.

question concerns an approximate estimate of the outlays necessary for a radical improvement in the state of infrastructure. In the related literature, one can find estimated costs of programmes to develop particular elements of infrastructure. For example, the programme of bringing the network of wire telephony in the former GDR to the level comparable with the West German lands (prior to unification of Germany) was to cost about DM60 billion. Moreover, about DM60 billion

was to be spent until the end of the year 2000 on the development of selected ventures from the transport infrastructure under the so-called programme of the German transport unification⁶. In Poland, the costs of the programme to construct the basic network of motorways about 2600 km long were estimated at approximately USD 5-6 bn⁷.

A much more difficult, and much less precise, task is to determine the joint costs of the whole programme of infrastructural improvement in the countries of Central and Eastern Europe. In this case, the problems stem from different interpretations of the possible range of infrastructure and from estimating the scale of necessary undertakings together with their costs. The Table below presents the results of such an analysis relating to the former European member countries of the Council for Mutual Economic Assistance (except the USSR). On the one hand, the calculations were based on the synthetic indicators of the level of infrastructural development in the European countries and, on the other hand, on the information that bringing the economic infrastructure from the former GDR area to the average FRG pre-unification level before unification will require at least DM100 billion (variant A in Table 2) to DM300 billion (variant B in Table 2). Being fully aware of the limitations of the calculation method applied, it should be noted that, in the light of the information on the outlays already sustained and the outlays planned for the infrastructural development of the former GDR, keeping the outlays at the level of DM100 billion turned out to be unrealistic. Therefore, as regards the other countries included in Table 2, it must be assumed that the necessary outlays for the development of infrastructure exceed the sums estimated in variant A.

4. Sources of financing the programmes of infrastructural development

Considerable financial requirements related to the development of infrastructure call for the formulation of another important question: who would finance this development?

There are four basic sources of financing infrastructural development programmes: a) budgetary means, b) national private capital, c) foreign private capital, d) international institutions. Out of the four above-mentioned sources, the

⁶ H. Sandhäger, *The East German experience*, in: *The provision of infrastructure. The role of the private sector*, EIB, Luxembourg 1995, p. 78.

⁷ L. Rafalski, *Stan sektora drogowego w Polsce*, *Problemy Ekonomiki Transportu* 1997, nr 1, p. 62.

Table 2. Estimated volume of investment necessary to equalise the level of development of the economic infrastructure in Central and East European countries with the level of West Germany (in DM bn from 1990)

Countries	Volume of necessary investment	
	Variant A	Variant B
Bulgaria	113	339
The Czech Republic and Slovakia	133	399
Poland	430	1290
Romania	400	1200
Hungary	140	40
Former GDR	100	300

Source: Author's own calculations based on: M. Ratajczak (1990) and *Le coût d'une mise au niveau Ouest-Allemande de l'économie de la RDA*, Problèmes Economiques, no. 2165, p. 10.

most significant role should be assigned to the budgetary means, which obviously does not suggest that this role should be that of a hegemon. The belief that the budgetary means should be the main source of financing infrastructural development in Central and East European countries results, in fact, from the limitations of the other sources.

As regards the national private capital, the barriers to its involvement in the infrastructural development are of two kinds. The first one is the scarcity of private capital, particularly the capital that could be allocated for such specific ventures as infrastructural investment. The second type of barriers refers to the nature of infrastructural investment projects (e.g. frequently, a long return on investment), which does not really encourage private owners to get involved in infrastructural undertakings.

Another possible source of finance for infrastructural development is foreign private capital. The specificity of infrastructural undertakings is also a limitation in this case as, apart from some exceptions, particularly telecommunications, they are not perceived as particularly interesting due to the relation between risk and what is called risk-related premium.

The last possible source of financing the development of infrastructure is the financial means obtained from international institutions. From the standpoint of Central and East European countries, particularly those which are at different stages of integration with the EU, the Union's funds may play a significant role. However, a general rule is that the means from the EU funds can support those undertakings which are in major part financed by other, above all national, sources.

One should also be aware of the principal difference between the size of finance obtained by candidates for EU membership and that which could be acquired after

their accession to the EU⁸. In Table 3, we made an attempt to present estimated differences between the finance provided by the European Investment Bank (EIB) for the development of communications infrastructure in the Czech Republic, Poland and Hungary between 1991 and 1995, and the finance these countries might have acquired from the same source had they been members of the Union at that time.

The adopted reference point was the means which Spain (Variant A) and Portugal (Variant B) obtained from the EIB between 1991 and 1995, in relation to the population size (Variants A1 and B1), and with reference to the area (Variants A2 and B2). A comparison with Spain and Portugal seems legitimate since the level of infrastructure development in the three Central and East European countries of our interest is close to the level of infrastructure on the Iberian Peninsula. Additionally, with reference to their area and population, the Czech Republic and Hungary are similar to Portugal, while Poland is comparable with Spain, particularly in terms of population.

Table 3. Real and potential finance from EIB funds for the development of transport infrastructure in the Czech Republic, Poland and Hungary between 1991 and 1995 (in Euro million)

Countries	Real finance	Potential finance			
		Variant A1	Variant B1	Variant A2	Variant B2
The Czech Rep.	280	2 376	3 295	1 402	2 914
Poland	655	8 836	12 255	5 555	11 548
Hungary	292	2 365	3 280	1 652	3 435
TOTAL	1 227	13 577	18 830	8 609	17 897

Source: Own calculation based on the *European Investment Bank*, Annual Report 1995.

On the basis of the simulation presented in Table 3, it is possible to formulate two conclusions. First, EU membership could bring a multiple growth in finance obtained from the EIB for the purposes of infrastructure development. Staying outside the Union's structures allows only a limited use of EIB funds. Second, small wonder that it is Spain, Portugal and other weaker EU member states that may have reservations concerning the prospects of the Union's further expansion. From the

⁸ Under estimation of Ministry of Transportation from 1998 to 2002 Poland should obtain from European Union's funds (except EIB's funds) 720 millions Euro to 1010 millions Euro for transport infrastructure development. In the same document there are estimations that after access to European Union (expected in those time for 1.01.2003) from 2003 to 2015 Poland should obtain from 11860 millions Euro to 16325 millions Euro, it means yearly even nine times more before accessing European Union. S. Bukowski, *Plan rozwoju infrastruktury komunikacyjnej w Polsce do 2015 roku*, Przegląd Komunikacyjny 1998, nr 11, p. 15-17.

point of view of those countries, the expansion of the Union will mean not only benefits resulting from the removal of barriers to international economic co-operation, but also an increased number of competitors participating in various funds, including those from the EIB.

It is obvious that finance acquired from the EIB is not, and will not be, the only source of the EU's participation in the development of infrastructure on Poland's territory. What is available at the pre-accession stage is, among other things, the finance obtained within the PHARE and ISPA programmes, with the latter being focused particularly on supporting infrastructure development. After being admitted to the Union, Poland primarily expects an inflow of finance on account of what is called structural funds, one priority of which is the upgrading and development of infrastructure⁹. The problem is, however, that at the moment, the Union does not envisage a dramatic increase in finance appropriated for structural funds along the admittance of new member states. This indicates that the means obtained by at least some of the current beneficiaries of the structural assistance, for example Spain, would have to be limited.

Poland's entry to the Union would mean that infrastructural projects carried out in Poland's territory within the TEN (Trans-European Networks) programme would be investment within the Union, and what follows is a possibility of even greater financing from Union sources.

Another question connected with the necessity to develop the infrastructure of the countries under systemic transformation, including Poland, concerns the structure of the ventures undertaken. This question, above all, refers to the relations between the outlays for the development of new elements of the infrastructure, particularly the most modern and at the same time the most capital-intensive ones and the means allocated for the modernisation of the existing facilities.

As regards the above-mentioned, one should agree with those experts who indicated and still indicate the need to be moderate and cautious while creating plans for constructing very modern infrastructural facilities (particularly in transport)¹⁰. There is a danger that the infrastructure created in such a way would in fact be of little use to a major part of business entities. Simultaneously, it would involve means that could be used for other, less prestigious but more useful, modernisation of the existing objects.

Analysing the issue of a desirable structure of infrastructural projects in Central and East European countries, attention also needs to be paid to social conflicts

⁹ Under new estimations of Ministry of Transportation even 70% of means necessary for realisation to year 2015 of road transport infrastructure development programme (about 15 billions Euro) should be from sources like ISPA or other European Union's funds. *Plan za 54 mld złotych*, Rzeczpospolita, 2.02.2001, p. B2.

¹⁰ *Tendances de l'évolution et politique des transports, économie des transports*, TRANS/R. 382, UN EEC 1993, p. 13-20.

which may stem from development projects, particularly those concerning linear structures. Polish experience, for example, difficulties in setting the route of Motorway A2 in the area of Warsaw, or a conflict which arose around the construction of a motorway near St. Anne's Hill, demonstrates a continued trend to underestimate a growing social sensitivity to potentially negative effects of infrastructure development. Therefore, while assessing the effectiveness of infrastructural projects *ex ante*, it is also necessary to consider all their potential social implications, including quite frequent, at least partial, contradiction between their effects on a macro-economic scale and their local dimensions¹¹.

Making a choice of the structure of infrastructural projects, one needs to consider the occupational structure and distribution of population. It is still characteristic of Central and East European countries to have a high proportion of population living in the country and related to agricultural work. At the same time, during the periods of command economy, these rural areas in particular suffered the effects of the policy to limit and delay expenditure for infrastructural growth, the underdevelopment of which was one of the most significant determinants of differences between the life in town and in the country.

Modern, linear infrastructural structures are of a limited positive significance for rural areas, or are sometimes even a source of serious problems (e.g. the need for at least partial expropriation of around 100 thousand farms in order to implement the plan of motorway construction in Poland) – hence the importance of maintaining, in infrastructure development plans, the right proportions between projects of supra-regional significance and those serving as a source of benefits mainly on a local scale¹².

Decisions on the structure of infrastructure projects in countries under transformation are linked to the threat of building the infrastructure «backwards» instead of «forwards». This threat finds its source in lengthy maturing periods, sometimes several score years long, of intensive infrastructural investment. Decisions to undertake such long-maturing projects, devised in the previous system, or sometimes even earlier, can be contaminated with excessive attachment to the importance of arguments justifying the legitimacy of a given project, but formulated in principally different economic, social and political conditions. As a result, it is possible that a specific investment project will fulfil current needs only partly, and will reflect future needs to an even smaller extent¹³.

¹¹ *Konflikty wokół przebiegu autostrad w Polsce*, A. Stasiak (ed.), Biuletyn KPZK PAN nr 179, Warszawa 1997.

¹² K. Wilczyńska, *Infrastruktura gospodarcza wsi i rolnictwa*, w: *Rozwój rolnictwa i agrobiznesu w skali krajowej i lokalnej*, Ośrodek Doradztwa Rolniczego w Sielinku, Poznań 1995, p. 137-145.

¹³ Idea of Oder – Danube – Elbe canal is an example of infrastructural development project with very long history and with many arguments for and against realisation. See: A. Piskozub, *Problemy transportu polskiego z cywilizacyjnej perspektywy*, *Problemy Ekonomiki Transportu* 1997, nr 4, p. 22-23; W. Grzywacz, *Transport w cywilizacji XXI wieku i następnego tysiąclecia*, *Problemy Ekonomiki Transportu* 1997, nr 4, p. 27.

5. Policy implications

Another aspect of transformations required in the sphere of infrastructure concerns changes in the principles of the functioning of the economy's infrastructural elements. The most significant of the proposed transformations are the changes in ownership related to privatisation and the changes in regulating mechanisms connected with deregulation¹⁴.

The idea of privatising infrastructural elements of the economy is quite commonly accepted. This, however, does not mean that there are no differences in opinion as to the required range, rate and methods of privatisation. As regards the rate and range of privatising infrastructural elements of the economy, one can come across the opinion that in the countries under transformation they should be quicker and wider than in countries of Western Europe¹⁵. Supporters of such a point of view indicate that the consequences of state ownership in former centrally planned economies are much more negative than those of state ownership in market economies. Therefore, maintaining state ownership in the infrastructure of the economies of the countries undergoing transformation means transferring systemic solutions infected with all the weaknesses of the command economy to the new reality.

Not refuting the idea of privatisation in the field of infrastructure and its services, attention should be paid to the above-mentioned limited interest of private capital owners in getting involved in the sphere of infrastructure. Moreover, one should not overlook arguments which call for great caution in privatisation-related activities. In this case, particularly the arguments of social character and the importance of this part of infrastructural services which is referred to as universal services cannot be neglected.

Privatisation in the sphere of infrastructure cannot be separated from the idea of deregulation if changes in ownership are not to lead to the replacement of a public monopolist or quasi-monopolist with a firm of similar character, but a private one. Deregulation should mean, on the one hand, lifting institutional barriers which hinder infrastructure and its services from entering the market and, on the other, developing new forms of regulation adjusted to the economic situation. The latter, seemingly paradoxical, element of deregulation, which actually means re-regulation, results from the fact that, in the area of infrastructure and related services, it is difficult to expect that what is called the strong invisible hand of the market will work. The strong invisible hand of the market means all the rules which force business entities to operate according to the principles typical of the free market. This is why most economists agree that, in the sphere of infrastructure and its

¹⁴ *Transition Report 1996*, op. cit., s. 54, 62.

¹⁵ I. Major, *Private and Public Infrastructure in Eastern Europe*, Oxford Review of Economic Policy 1991, vol. 7, nr 4, s. 88-92.

services, some form of regulation is necessary, although it is not a ready answer either to the question what should be regulated and how, or who should perform the duties of the regulator.

6. Conclusion

As mentioned in the beginning section of the study, one cannot state that it is just infrastructure shortages that are the primary barrier to Poland's integration with the European Union. However, this is not to say, either, that infrastructure plays a marginal role in the integration processes. It is infrastructure that will largely influence the extent to which Poland will be a peripheral country after joining the EU, in terms of not so much geography as the economic and social distances mentioned above. Therefore, it is absolutely essential to implement programmes which would substantially upgrade individual infrastructure components. In this context, one should assume that, even in case of their radical growth, the means obtained from Union funds may play the role of a truly meaningful source of finance, but only complementary to the means coming from a national saving fund. However, since domestic savings come from economic growth, it is not possible dramatically to improve the condition of infrastructure or fundamentally to decrease, let alone to eliminate, the infrastructural gap presented above unless, in the long term, Poland's economic growth rate is higher than the average growth rate for the Union in its current shape.

References

- Baumgartner P. (1986), *Critères de choix des investissements dans les infrastructures des transports internationaux*, TRANS/SEM.5/R.1, United Nations – European Economic Commission
- Biehl D. (1986), *The contribution of infrastructure to regional development*, European Communities, Luxembourg 1986
- Bukowski S. (1988), *Plan rozwoju infrastruktury komunikacyjnej w Polsce do 2015 roku*, Przegląd Komunikacyjny, nr 11
- Le coût d'une mise au niveau Ouest-Allemande de l'économie de la RDA* (1990), Problèmes économiques, No. 2165
- Grzywacz W. (1997), *Transport w cywilizacji XXI wieku i następnego tysiąclecia*, Problemy Ekonomiki Transportu, nr 4
- Klaassen L. H., Paelinck J. H. P., Wagenaar S. (1982), *Systemy przestrzenne*, PWN, Warszawa
- Konflikty wokół przebiegu autostrad w Polsce*, A. Stasiak (ed.) (1997), Biuletyn KPZK PAN nr 179, Warszawa

- Major I. (1991), *Private and public infrastructure in Eastern Europe*, Oxford Review of Economic Policy, vol 7, nr 4
- Paelinck J. H. P. (1983), *Investment and the development of backward regions*, in: *Investing in Europe's future*, Basil Blackwell, Oxford
- Piskozub A. (1997), *Problemy transportu polskiego z cywilizacyjnej perspektywy*, Problemy Ekonomiki Transportu, nr 4.
- Plan za 54 mld złotych*, Rzeczpospolita, 2.02.2001, p. B2
- Rafalski L. (1997), *Stan sektora drogowego w Polsce*, Problemy Ekonomiki Transportu, nr 1
- Ratajczak M. (1990), *Infrastruktura a międzynarodowa współpraca gospodarcza w Europie*, KiW, Warszawa
- Ratajczak M. (1999), *Infrastruktura w gospodarce rynkowej*, Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań
- Sandhäger H. (1995), *The East German experience*, in: *The provision of infrastructure; the role of the private sector*, EIB, Luxembourg
- Tendances de l'évolution et politique des transports, économie des transports* (1993), TRANS/R.382, UN EEC
- Transition Report 1996: Infrastructure and savings* (1996), European Bank for Reconstruction and Development, London
- Wilczyńska K. (1995), *Infrastruktura gospodarcza wsi i rolnictwa*, w: A. Czyżewski (ed.), *Rozwój rolnictwa i agrobiznesu w skali krajowej i lokalnej*, Ośrodek Doradztwa Rolniczego w Sielinku, Poznań