

Janusz Słodczyk, Dariusz Rajchel*, Zbigniew Jakubczyk***

**CHANGES IN THE FUNCTIONAL STRUCTURE
OF SMALL AND MIDDLE-SIZED TOWNS
IN THE PERIOD OF TRANSFORMATION
(USING THE EXAMPLE OF THE OPOLE REGION)**

The paper presents an analysis of the economic bases of the Opole-Silesian towns in the period of transformation. As the research method the theory of three sectors was applied with the stress put on determining the level of relocating the workforce from the industrial sector to the service sector. Spatial disparity of this process was stated, especially between the towns of Brzeg and Kędzierzyn Koźle and Nysa. In some of the towns there occur a reduction of employment in the institutions of a town-making character.

1. INTRODUCTION

Researches concerning the economic basis for urban development have long been rooted in the field of geography and economy. A theory of the urban economic basis has been developed, into which Polish science has contributed considerably. Considering the problem from a perspective, however, it seems that the vital results of the researches have not been applied practically in Polish conditions. In the 80s and 90s interest in the analyzed trend of the researches decreased substantially.

In fundamentally transformed system conditions, together with the implementation of new regulations for urban management and development planning, researches concerning the economic basis for urban development and functional structure have taken on a new meaning. Adjustments regarding this sphere may become an important issue in determining policy trends for local and regional development.

System transformations occurring in the overall economy must induce the economic basis of a number of towns and their functional structure as well. The functional structure of Polish towns after the war was shaped under the strong influence of the implemented economic model. Dynamic yet extensive industrial development combined with the fast increase of employment was a characteristic element of this model. Newly-built

* Department of Economics, Opole University.

** Department of Ecological Economics, Wrocław University of Economics.

factories and industrial plants became targets of migrants from rural areas. The inflow of population from rural areas to towns brought the necessity to develop a building industry and increase the employment in this sector. Underdevelopment of the third sector was a characteristic phenomenon. This mainly concerned such sectors as trade or services. In the cases of culture, education and medical care the disparities, compared to countries with the market economy, were lesser. The above-mentioned phenomena induced significantly the structure of employment in towns.

After several years of intensive transformation of economy we should expect changes in the structure of employment in towns, mainly as a result of labor force transition from the production sector to the service sector. This means that in the case of many towns their service functions are now becoming to a larger extent the basis for their economy, with a simultaneous reduction of the significance of industry.

In the last period the term of basic sector function was applied in a number of documents and papers regarding the strategy of urban development. It is worth remembering that this term is fairly explicitly defined in theory. It would, therefore, be essential to determine which spheres of urban life do have the basic sector character and what it means in practice.

Formulating the trends of urban development policy, the subjects of the policy ought to state what function the urban center has at the moment and what function it is going to have in the future. Two existing theoretical approaches to the problem of the functional structure of towns may be used in this respect.

2. THE BASIC TRENDS OF ANALYSES CONCERNING THE FUNCTIONAL STRUCTURE OF TOWNS

One of the possible trends of considerations is determining the role of the town as a place of residence and employment (Jerczyński 1977, pp. 35–37). The town is both the place of residence and the labor market. In order to assess the correlation between the two functions, it has to be defined to what extent the demand for labor force (number of jobs) is covered by the supply of labor force (amount of population at the working age).

A decreased number of jobs denotes the predominance of the residential function of the town (such a plight makes workers leave the town for work). This phenomenon occurs, for instance, in satellite estates around large agglomerations.

A decreased amount of labor force denotes the predominance of the working place function (which induces commuting to the town from the peripheral area). The equilibrium between jobs and labor force resources may either mean that

the majority of inhabitants find jobs in their own town or may signify the replacement of labor force with other labor markets.

The above-mentioned adjustments may become an essential element for development conditioning and an issue of local policy.

Another trend of analysis is determining the urban center function from the point of view of working places. In this respect urban functions can be divided into two groups: production and services. In the latter group activities like: administration, politics, trade, education, culture, municipal services and others are included. The significance of the specific urban function is determined on the basis of percentage share of workers in the function compared to the aggregate amount of labor force employed in the surveyed town. Not all the functions are equally important, and the sector distinguishing itself with a dominant character often becomes the basis for urban life, with other sectors concentrated around it (Kiełczewska-Zaleska 1972, pp. 123).

The approach arising from the concept of the urban economic base has fundamental significance for the assessment of the economic basis of urban development. Every town supplies goods and renders services in a smaller or larger local area. The connections between the two account for the compatibility and spatial interactions.

However, not all activities in town result from the necessity to develop links with the external area. Certain activities refer only to the functioning of the town itself. The two kinds of the activity mentioned above create the urban economic base.

A part of the urban population is involved in the production of goods and services both for the town and the peripheral area. In other words, their work is 'exported' and induces capital inflow into the town. This community forms the basic sector in the urban economy.

Another group of workers earn their living producing goods and supplying services exclusively to satisfy the needs of the town and its inhabitants. These activities are often essential from the point of view of proper municipal functioning and the inhabitants' living standards, they do not, however, induce capital inflow from the external area. This group of workers forms the so-called nonbasic sector. (The term: basic/nonbasic sector was coined by K. Dziewoński, 1967.)

The workers' classification from the point of view of the attachment to the first or the second group is very difficult. A lot of people provide services which can only partly be rated as basic sector activities.

In most towns heterogeneous functions have been developed to serve the external areas. Sometimes one activity or several kinds of activities dominant to the urban economy can be distinguished. Such functional specialization makes it possible to incorporate specific towns into specific categories.

Studies have shown that regardless of the urban functional specialization, the percentage basic/nonbasic ratio is similar in towns with a congruent population. Together with urban development, the number of people employed in sectors supplying the needs of the town increases faster than the number of people producing exportable goods. In a town with a population of 1 million people, approximately for every worker from the basic sector there are two workers from the nonbasic sector. It is assumed that 10 new jobs in the basic sector create the labor force growth of 30 persons (10 in the basic group and 20 in the town-orientated group) and even a larger increase of the urban population since to the actual number of workers we must add those who are dependent on them (Fellman, Getis, Getis 1995).

The basic functions' development thus results in an even faster rise of supplementary functions and overall economic development and the growth of population. In the literature on the subject the processes are analyzed in detail and are defined as the multiplier effect of the economic base (Domański 1990, pp. 54).

In some cases the urban development may have a self-generating character. Such development does not result from the growth of the basic sector but is the effect of the increased attractiveness of the services which are being developed in the town. The attractiveness may be dependent on the banking services, heterogeneous labor force or well-developed social infrastructure.

The correlations described above cause urban development but may sometimes bring about growth repression or a gradual decline. If the demand for specific goods or services, which tended to represent the sector dominant for the urban economy, is coming to an end, a number of workers involved in the goods' production will lose their jobs. This process induces a reaction in the group of workers satisfying the needs of the town.

Although these problems have been well-known from the literature on the subject, they were recalled here deliberately in the context of the discussion concerning the scope of activities and problems of the local government. The understanding of the above-mentioned mechanisms seems to be a useful element of knowledge that local policy subjects ought to acquire.

3. THE FUNCTIONS OF TOWNS IN THE OPOLE SILESIA REGION

With reference to the trends of researches involved in determining the role of the town as a place of residence and employment, changes in the amount of urban labor force in the surveyed region were analyzed. In accordance with the expectations, in the towns of the Opole region overall economic tendencies

have been reflected. It is interesting to note, however, that the phenomenon has been differentiated in particular towns of the surveyed set.

In an eight-year-period (1988 to 1996) the number of persons employed in the towns of the Opole region considerably decreased. By and large, in 1996 there were 67,000 workers fewer in the 30 towns of the region than in 1988, which is a 26% decrease. Half of this figure refers to workers employed in industry. During 6 years, an outflow of one third of the labor force employed in industry located in the urban areas of the region was observed.

The phenomena described above occurred differently in particular towns. Paczków is an example of an especially high reduction of workers, since employment decreased by 56%. The number of workers also fell considerably in the following towns: Biała (48%), Kietrz (46%) and Lewin Brzeski (44%).

The group of towns in which employment decreased by approximately one third in the last six years is fairly numerous. It encompasses: Ozimek (39%), Krapkowice (37%), Głubczyce (35%), Wołczyn (34%), Głuchołazy (32%), Kluczbork (32%) and Prudnik (32%).

The phenomenon of unemployment accompanied the process of reducing the number of workers in towns. The unemployment rate stabilized a few years ago at the level of approximately 9.8% in respect to the overall set of the surveyed towns. As far as the extent of this phenomenon is concerned, however, the towns of the Opole region differ radically. The highest rate was observed in Paczków (approx. 22%) and Korfantów (approx. 20%). In general, in most towns of the western part of the region unemployment is relatively high (the unemployment rate ranges between 14–16%). The group encompasses both smaller centers like: Otmuchów, Grodków, Niemodlin, Lewin Brzeski, Wołczyn and towns acting as subregional centers (Nysa, Brzeg, Namysłów).

The group of towns characterized by the lowest unemployment rate comprises the capital of the region, Opole (5.8%) and mostly industrial centers in the eastern part of the voivodship where the unemployment rate does not exceed 5%, such as: Zdzieszowice, Zawadzkie, Kolonowskie, Gogolin, or ranges between 5–7%, such as: Kędzierzyn-Koźle, Ozimek and Krapkowice.

In the light of the facts presented above, the first years of the transformation period were connected with a substantial reduction of jobs in towns. At the same time, however, stabilization or reduction in migration movements was being observed, which means that the arisen situation does not seriously influence the residential function of the town.

From the point of view of the functional analysis of towns concerning their role as a place of residence and employment, it may be reckoned that in a large group of towns, particularly in the western part of the region, their function as a working place has been limited and, respectively, the residential function has

become more significant. It seems that more detailed studies in particular municipalities would confirm this statement.

An attempt to determine the functional type of the town on the basis of the structure of employment in the three main sectors of economy is yet another kind of applied analyses. In compliance with the accepted criteria, the first sector encompasses workers of agriculture and forestry, the second – workers employed in industry and the building industry, the third comprising of workers employed in the service sector, e.g. trade, transport, administration, financial institutions, education, science, medical care and others.

The analysis has employed the functional classification suggested in the research by M. Jerczyński (1977), which was afterwards applied in later researches (Maczak 1992, pp. 9–25). On the basis of the comparison of the employment share in the three main sectors, 10 types of towns have been distinguished in the above-considered research (Table 1).

Table 1

Types of towns based on the maximal and minimal employment shares in the sectors of economy.

| Types of towns | Percentage of workers in sector | | | | | |
|---------------------------|---------------------------------|------|--------------------------------|------|--------------|------|
| | I Agriculture/ forestry | | II Industry/ Building industry | | III Services | |
| | Max. | Min. | Max. | Min. | Max. | Min. |
| Agricultural | 100 | 50 | 40 | 0 | 40 | 0 |
| Agricultural-industrial | 60 | 37.5 | 50 | 25 | 25 | 0 |
| Agricultural-service | 60 | 37.5 | 25 | 0 | 50 | 25 |
| Industrial | 40 | 0 | 100 | 50 | 40 | 0 |
| Industrial-agricultural | 50 | 25 | 60 | 37.5 | 25 | 0 |
| Industrial-service | 25 | 0 | 60 | 37.5 | 50 | 25 |
| Service | 40 | 0 | 40 | 0 | 100 | 50 |
| Service-agricultural | 50 | 25 | 25 | 0 | 60 | 37.5 |
| Service-industrial | 25 | 0 | 50 | 25 | 60 | 37.5 |
| Lack of dominant function | 50 | 25 | 50 | 25 | 50 | 25 |

Source : Jerczyński 1997.

If the above-mentioned parts of the employment share are accepted four types of towns out of the ten types presented in Table 1 can be observed to Opole region. (It should be noted that urban typology acting as the reference point of the above-presented considerations is based on the data of employment structure in particular sectors of economy. The basis of analysis regarding 1996 is data on workers employed in the national economy, in compliance with the European Classification of Activities.):

- Industrial type,
- Industry-service type,
- Service-industrial type,
- Service type.

The agricultural function does not play an important role in the urban economy. The share of workers in agriculture ranges between 0–3%. There are a few exceptions like: Kietrz (21% of workers employed in agriculture), Baborów and Niemodlin (approx. 14%).

During the eight years (1988–1996) slow changes occurred in the employment structure according to the sectors of economy. Generally, the increased share of the third sector can be observed, although the process is slow and does not refer to all the towns in the surveyed region. In 19 towns out of the aggregate set comprising 29 towns an increase of the share of workers employed in the service sector took place. (In 1988 Korfantów did not possess civic rights and was not taken into account in the aggregation of the towns of Opole voivodship.)

This group encompasses all the larger urban centers in the region like: Opole, Kędzierzyn-Koźle and Nysa, except for Brzeg in which the share of the service sector decreased by 3%. In seven towns the share of workers in the service sector decreased and in case of three urban centers the level did not change.

The changes in the percentage share of workers in the second sector do not always reflect many scientists' expectations. In 17 towns the share of workers employed in industry decreased, in 10 the share actually increased and in case of two towns the level was constant. In the group comprising of the 10 centers there is, for instance: Baborów, Byczyna, Grodków, Niemodlin, Otmuchów, Prudnik, Ujazd and Zdieszowice. The town of Zdieszowice is a specific case since the share of workers employed in industry and building industry rose from 77% to 83%. Taking the tendencies on the labor market into consideration however, the increased share of the industrial workers in particular towns does not always signify production growth, it may rather indicate the regression in the service sector.

4. THE FUNCTIONAL TYPES OF TOWNS IN THE OPOLE SILESIA REGION (ŚLĄSK OPOLSKI) IN 1996

The changes in the employment structure described above were not strong enough to change the functional type of particular towns in the period surveyed. In the light of the functional typology criteria defined in Table 1, the towns of the Opole region did not change their functional character in the period of transformation. However, if the indicated tendencies regarding working places keep up with the current level, some typological changes may occur in future years.

Four towns in the Opole region may be ranked among typical industrial centers: Zdieszowice, Zawadzkie and Ozimek, where 70% of the labor force is concentrated in industry, as well as Krapkowice with 60% of the labor force employed in industry. For these towns industry continues to be the basis of their existence.

Table 2

The employment structure of industrial towns in Opole region in 1996

| Town | Population | Percentage of workers in sector | | |
|--------------|------------|---------------------------------|------|------|
| | | I | II | III |
| Krapkowice | 20.1 | 0.5 | 62.9 | 36.6 |
| Zdzieszowice | 13.7 | 0.1 | 83.0 | 16.9 |
| Ozimek | 11.0 | 0.2 | 76.0 | 23.8 |
| Zawadzkie | 9.3 | 1.4 | 75.4 | 23.2 |

Source: calculated by the authors.

In the light of the accepted criteria, six towns out of the surveyed set have an industrial-service character. Industry and building industry account for 37.5%, and it is worth noting that services play a significant role in the economy of the centers (25–0% of the total labor force). The group encompasses urban centers with a heterogeneous population and heterogeneous economic potential. The group of towns with industrial-service character comprises three small towns (Baborów, Otmuchów and Lewin Brzeski) as well as larger towns like: Głucholazy (16,000 inhabitants), Prudnik (24,000 inhabitants) and the second largest urban center of the region – Kędzierzyn-Koźle.

Table 3

The employment structure in industrial-service towns of the Opole region in 1996.

| Town | Population | Percentage share of workers in sector | | |
|------------------|------------|---------------------------------------|------|------|
| | | I | II | III |
| Kędzierzyn Koźle | 70.6 | 1.2 | 51.0 | 47.8 |
| Prudnik | 24.4 | 1.6 | 50.9 | 47.7 |
| Głucholazy | 15.8 | 0.1 | 51.0 | 48.9 |
| Lewin Brzeski | 5.9 | 2.7 | 56.3 | 41.0 |
| Otmuchów | 5.4 | 0.3 | 52.4 | 47.3 |
| Baborów | 3.5 | 14 | 75.4 | 33.7 |

Source: calculated by the authors.

In the case of two towns a characteristic feature of the analyzed structure is the equilibrium between the groups of workers in the second and third sector of

economy running at a level of approximately 43%–47%. Such proportions have been observed in Brzeg (one of the largest centers of the region) and Ujazd (the smallest center of the analyzed set).

Currently, towns characterized by the service-industrial character form the most numerous group. Among them the following municipalities can be found: Nysa, Kluczbork, Strzelce Opolskie and Namysłów. A similar employment structure refers to groups of smaller towns, including: Grodków, Paczków, Niemodlin, Głogówek and Wołczyn. The service sector concentrates the largest amount of labor force in all the above-mentioned towns, although production plays an important role in the urban economy as well (more than 25% of workers).

The capital of the region, Opole, is a town of service character. The third sector comprises 66% of total labor force and the second one – 32%. The group of service towns encompasses: Głubczyce, Gogolin and the three smallest urban centers of the region – Biała, Byczyna and Leśnica.

5. THE TRENDS OF CHANGES OF THE URBAN ECONOMIC BASE

At the moment the authors are not in the possession of any direct statistical data concerning the employment structure from the point of view of the production of goods and services supplied to the town and the peripheral areas, which would enable to distinguish the group of people whose work induces capital inflow into the town. Such an attempt will be taken in future studies. Nevertheless, the observation of processes occurring in urban centers has already given some basis for determining the trends of changes in this sphere.

The analyses of the following issues bring on essential information for the evaluation of the eventual changes in the area of basic and nonbasic sector:

- changes in the percentage share of workers in particular sectors,
- dynamics of small and medium-sized companies in particular towns and the character of established companies,
- the economic situation and perspective of large firms set up in the period of planned economy, which tended to and still continue to form the basis of the economic base of a considerable number of towns.

The outflow of workers from industry, which was described in the latter part of the paper, in practice marks a decrease of employment in companies with a basic sector character. On the other hand, a considerable number of new working places brought to life in the third sector (services) are jobs in small trade and service firms of several persons (often family businesses). These are firms of a clearly nonbasic character providing services exclusively to the urban community.

As a result, a proper and expected process of changes in the urban economic structure grounded on the increase of service sector share in the case of many small towns, may signify the reduction of functions fundamental for the town's existence. Firms which produce and supply services only to the inhabitants of the town will not replace the same group of workers producing and rendering services to the external areas.

The above-mentioned remarks do not mean that small family businesses and service firms are underestimated in the urban economic structure. At the moment, however, these firms are performing the basic sector functions to an inconsiderable degree. The growth of small and medium-sized companies is a great chance for the local economies, however the hopes of the authors regarding many strategies for local development aiming at the growth of small and medium-sized companies refer mainly to innovative, dynamic and flexible firms which can be competitive on the home and foreign market (*Małe i średnie przedsiębiorstwa ... 1996*).

Studies that are being taken up on the functional structure of small towns in various parts of Poland do confirm the opinions presented above. The authors of a piece of research concerning Brodnica (Matczak, Szymańska 1997) point out that labor reserves in the town ought to be started in basic sector activities by setting up small business units, which are in most cases orientated towards external areas.

Small towns, in which employment in industrial plants has decreased, have to be adapted for the nearest vicinity service. In addition to this, increasing competitiveness of the background area should be expected.

The attractiveness of goods and services offered in the town will be a factor determining the range of the market area served by the town. Attracting more people from peripheral areas signifies the growth of the basic sector and an increased inflow of capital into the town.

The analysis of local development strategies shows that most local governments can see a great chance in winning foreign investors, at the same time, however, underestimating the economic significance of the service function, which the urban center performs towards the nearest background area.

As the experiences of the last years show, the mechanisms of the free market stimulate the development of most large urban centers. They may as well turn out to be detrimental to the economic basis of many small and medium-sized towns. By and large, the socio-economic transformations in Poland have induced the intensification of disparities among urban areas. This was supported by the results of studies conducted in the towns of the Toruń voivodship (Brudnicki 1996, pp. 65–70) during which an increasing diversification of socio-economic living standards was observed between

smaller and larger towns. Phenomena of this kind occur not only in Poland, as they are elements of processes of the global character. Analyzing the processes of economy globalization and urban transformations on the global scale, R. Domański (Domański 1997, pp.70–75) highlights that two kinds of towns can be distinguished: those working their way up in the global hierarchy and those becoming more and more peripheral in character. As a result, a number of towns are being excluded from the processes driving the aggregate economy. This phenomenon occurs most explicitly in the case of a large group of towns which have suffered a decline of their basic function.

6. CONCLUSIONS

1. Along with the economic transformation, there took place a considerable decrease in the employment level in the region under examination;

2. The decrease concerned mostly affected the industrial employment;

3. The processes discussed differed with respect to their spatial distribution; a significant difference is to be observed between the south-western and eastern parts of Opole Silesia;

4. Within the urban areas, more and more labor force is being employed in services. However, the structural changes are slower than the expected ones;

5. For a majority of towns, the share of industrial employment in employment as a whole did not change which may mean that the processes of industrial restructuring have been delayed;

6. The changes observed may result in a diminishing share of basic sector and, subsequently, in disadvantageous outcomes with respect to the further urban development of Opole Silesia;

7. Smaller towns have to strive for a better execution of their functions as the centers of administrative and economic services for the adjoining areas. They also have to compete with other towns in delivering these services.

REFERENCES

- Brudnicki R., (1996) *Zmiany społeczno-gospodarcze w miastach i na obszarach wiejskich województwa toruńskiego w okresie transformacji systemowej* [Socio-Economic Changes in Towns and Rural Areas of the Toruń Voivodship in the Transformation Period] in: *Wybrane problemy geografii społeczno-ekonomicznej i zagospodarowania przestrzennego* [Selected Problems of Socio-Economic Geography and Spatial Economy]. Uniwersytet Mikołaja Kopernika, Toruń, pp.65–70.
- Domański, R. (1977): *Przestrzenna transformacja gospodarki*, [Spatial Transformation of Economy]. PWN, Warszawa.

- Dziewoński, K. (1967): *Baza ekonomiczna i struktura funkcjonalna miast. Studium rozwoju metod, pojęć i ich zastosowań* [Economic Basis and Functional Structure of Towns. A Study in the Development of Methods, Concepts and their Application]. IG PAN, Warszawa. Prace Geograficzne [Geographical Works] no. 63.
- Fellman, J., Getis, A., Getis, J. (1995): *Human Geography, Landscape of Human Activities*. Wm. C. Brown Publishers, London.
- Jerczyński, M., (1977): *Funkcje i typy funkcjonalne polskich miast* [Functions and Functional Categories of Polish Towns], in.: *Statystyczna charakterystyka. Funkcje dominujące*, [Statistical Description of Poland – Dominating Functions]. GUS, Warszawa. Statystyka Polski no. 85.
- Kielczewska-Zaleska, M. (1972): *Geografia osadnictwa* [Geography of Settlement]. PWN, Warszawa.
- Grzeganeł-Więcek, B., Jacher, W., and Słodczyk, J., eds. (1996): *Male i średnie przedsiębiorstwa jako stymulatory rozwoju gospodarczego* [Small and Medium-Size Enterprises as a Factor Inducing Economic Development]. PAN, Oddz. w Katowicach, Katowice.
- Maczak, A. (1992): *Zmiany w strukturze funkcjonalnej miast Polski w latach 1973–1983*, [Changes in functional structure of Polish towns 1973–1983]. UŁ, Łódź. Acta Universitatis Lodzensis, Folia Geographica no. 17, pp. 9–25.
- Maczak, A., Szymańska D., (1997): *Studia nad strukturą przestrzenno-funkcjonalną miasta, przykład Brodnica*, [Studies on the spatial and functional structure of towns: the case of Brodnica]. Uniwersytet Mikołaja Kopernika, Toruń.

Received: 13.01.99; revised version 07.05.99.