shrink smart

Governance of Shrinkage
Within a European Context

SEVENTH FRAMEWORK PROGRAMME

Work package 2

Urban shrinkage in Timisoara, Romania

Research report

D4 Comparable research report

30 March 2010

Bogdan Nadolu (✉)
Melinda Dinca
Dan Luches

 Comments and enquiries should be addressed to: Dr. Bogdan Nadolu, Room 333, The Faculty of Sociology and Psychology, West University of Timisoara, Timisoara, 300223, Bd. V. Parvan no. 4, Timis County, Romania. Tel: +40 256 592320. Email: bnadolu@socio.uvt.ro

Contents

LIST OF FIGURES

LIST OF TABLES

1. EXECUTIVE SUMMARY

Timisoara is nowadays the 2nd city of Romania, an important economical, social and cultural urban centre. Until 1990, the city had a relatively continuous growing, natural at the beginning of the 19th century, but artificially accelerated during the communist period. After the political change, the city has started a natural process of reconfiguration, similar with the national and euro-regional trends. The decline of the Timisoara's population was almost constant during 1990-2008 and, thus, it clearly reflects that the growing of the city under the totalitarian regime was not a functional, adequate or pertinent model. The statistical fact is eloquent: ***during 2 decades, Timisoara has lost 14% of its population***. This paper tries to identify the reasons and the premises of the city shrinking, but in the same time, the impact and the consequences of the population decline.

On the base of the statistical data, the shrinking of the city can be delimitated in 2 distinct periods: 1990 - 1999 and 2000-2010. For the 1990ies, the population decline can be explained by the decreasing of the birth rate (as a general behaviour at national level). Thus, from 1991 the natural spore has become negative, and the number of births was in continuous decreasing until in 2002. From 3,302 newborn babies in 1990, the natural spore has decreased to 2,201 in 2002 and after that it has increased back till 3,175 in 2008. From 1992 to 2007 the number of deaths was constantly higher than the number of births. ***The negative spore during this period has cumulated a decreasing of the population with 7,718 inhabitants (2.19%).***

All villages around Timisoara have known a significant process of development (the trend is to become a residential area, similar with West European models). The project for the metropolitan area of the local administration is directly connected with these trends. In the context of rural depopulation (specific for the entire national level), all the growing of the villages near the Timisoara represents actually a ***clear process of suburbanization***. For the last decade, this is one of the most important causes for the shrinking phenomenon in Timisoara. ***During the last 7 years, the population from the 11 villages involved in the future metropolitan area has grown with 5,774 inhabitants (equivalent with 1.64% from the peak of Timisoara's' population).***

Another cause of this population decline was the migration. Thus, from 1994 until 2007, the number of persons that have moved from Timisoara in a foreign country was constantly higher than the number of foreigners that have established in Timisoara. During this period 11,684 of Timisoara's inhabitants have moved away and 2,763 foreigners have moved in the city. These statistics cover especially the ethnic groups (firstly, the German population from Timisoara that have gone in Germany during the 90ies). ***By this phenomenon, Timisoara has lost 8,921 inhabitants (2.53%).***

2. PATTERNS OF URBAN SHRINKAGE

Timisoara is one of the first 3 cities of Romania, an important economical, social and cultural centre. From a geographical point of view, Timisoara is situated at the cross of the 45th North latitude parallel with the 21st East longitude meridians, in the West Plain of Banat Area, at less than 700 km of many European Capitals:

Figure 1 – Timisoara on Europe

Sources: authors' work on the base of Google Map

Documentary attested since 1266 as fortified fortress, Timisoara was recorded as *Civitas* (town) in 1342. From 1716, after the liberation from the ottoman domination it is started a large process of modernization. In 1727, the Count Claudius Florimund Mercy emitted "The regulations regarding constructions for the city and the fortress of Timisoara" that imposed to demolish all existing buildings and to construct new buildings, obligatory from bricks, on a new rectangular streets configurations. In 1781 Timisoara was raised to the level of "free royal town" (municipality). Over the time, Timisoara has known a constant urban development, acquiring quickly and easily all Central European trends and standards (before the communist regime Timisoara was named "Little Vienna").


Figure 2 – Opera square and Orthodox Cathedral


Figure 3 – Downtown with one of the last piece from the Timisoara's Fortress (green).

Following the NUTS 2 standard, Timisoara belongs to the region RO42 Vest and it is the seat of Timis County[1]. From the point of view of its administrative organization, the Timis County has two cities (Timisoara and Lugoj), eight towns, 85 communes, and 313 villages. Structurally, according to the Population Census of March 18, 2002, 60.72% of the total population of the Timis County lives in an urban environment whereas the rest of 39.7% resides in the countryside. The average density of the population in Timis County (76 inhabitant/sq.km in 2002), as well as in the Western Region of Romania, has registered a slight decline in relation to the national average.

[1] By NUTS, Romania has 4 macro-regions, 8 development regions and 41+1 counties

With a rich multicultural tradition, Timisoara keeps a consistent cultural life, especially with the fourth theatres: National Theatre, German Theatre, Hungarian Theatre and Jewish Theatre, and also with the cultural offer of the Philharmonic and Romanian National Opera. Complementary, Timisoara is well-known as a traditional educational centre with a notorious academic curriculum offered by 7 universities - four public universities: West University of Timisoara, Polytechnic University of Timisoara, The "Victor Babes" University of Medicine, The Banat University of Agricultural Science and 3 private universities.

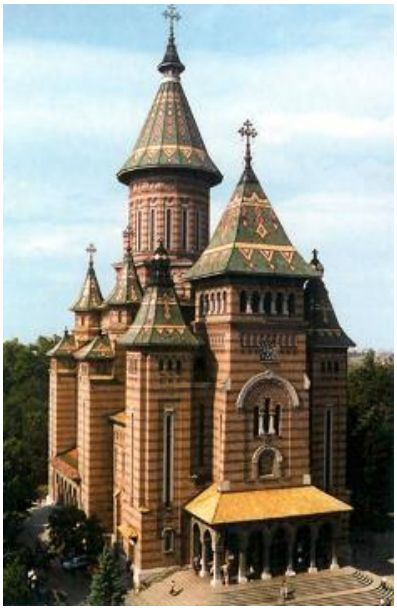


Figure 4 – Orthodox Cathedral

Figure 5 – The Catholic Dome

Figure 6 – National Opera

To talk about the shrinkage in Timisoara of 2009 is quite difficult, because the general previews have positive and optimist trends. The entire region RO42 has a well-developed profile and Timisoara is the growing centre of this area. The public administration working to the strategy for the metropolitan area of Timisoara and the idea of *shrinking* are completely missing from the public discourse.

Despite this, the statistical fact is eloquent: ***during 2 decades Timisoara has lost 14% of its population***. The reasons, premises and the implications of this phenomenon of shrinking will be discussed in the following pages.

Figure 7 – 10 levels blocks into the summer storm

Sources: Loran Szabo*

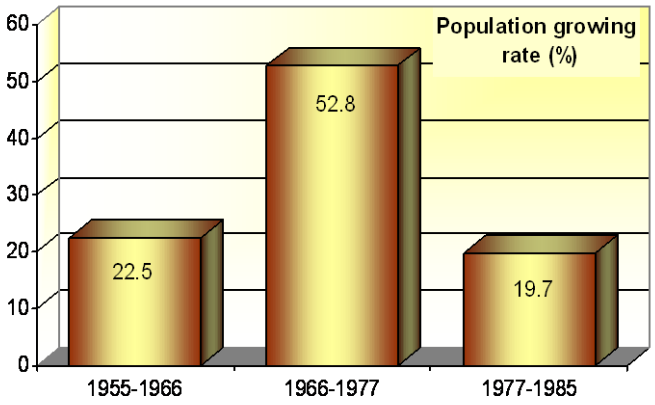
* © Lorant SZABO *Another black cloud over Timisoara*, picture available at http://www.flickr.com/photos/lorantszabo/206861035/, last accessed 11 January 2010

2.1. Reasons and premises

Demographics (population development and migration)

Under the positive demographical policy imposed by the communist regime, the population of Timisoara has reached a peak in 1990 with 351,293 persons. The starting point of the population's growing (at the national level) can be considerate the Decree No. 770/1966 through which Nicolae Ceausescu has forbidden the aborts. It was estimated that around 2 millions of children were "helped" to be born at the national level, in only 2 years[2]. Due to the implementation of this law, the population of Timisoara has known the highest rate of growing, as is represented in the Figure 8:

Figure 8 – Population growing rate (%)



Source: Statistical Yearbooks

This abusive act together with other measures (various economical advantages for the families with 3 or more children) has improved the birth rate during the 1970ies and 1980ies. The political pressure to increase the population volume was so high that in 1989 the official discourses celebrated the number of 23 millions of Romanian (even this level was contested by some demographers).

By other hand, after the Second World War the Timisoara's native population (with a large German community) has suffered much political oppressions, such as forced deportations in working camps from USSR, in the Baragan champ (in South-East part of Romania) or in other forced working camps from Romania (such "The Danube-Black See Channel"). In the effort to eradicate the occidental mentality of the city, there were generated massive waves of migration towards Timisoara, from rural areas and from other parts of Romania (especially from Moldova). It is estimated that, today, here are less than 1/3 families with more than 3 generations born in Timisoara.

Complementary, the external migration was strictly controlled and generally prohibited. It was more and more difficult to cross Romania's boundaries, even as tourists. The free circulation of persons among foreign countries was almost a myth, especially during the last years of communism. The entire country has become a ghetto, with deep, fundamental, structural and harmful insertions of the state in the private life, with fewer options and alternatives to cross the pattern. The Ritzer's McDonaldisation phenomenon was really experimented in Romania (as well as in the rest of the communist parts of Europe) but without almost any occidental contents (into a quasi-complete planned economy, the everyday life where quite strictly predictable, with very limited number of options for each citizen).

[2] „Vieti la comanda" [Lifes at command], article available at http://www.civicnet.info/Procesulcomunismului.asp?ID=120, accesed at 19 March 2010

And at last, but not at least, a massive action plans regarding the control of population growing, configuration and structure was implemented in Romania. In the last years of communism, one of the main targets, in order to develop a full operational planned agriculture, was to demolish the villages (and to force the movement of rural population in the urban space). This process has represented a second stage of urbanization, after the period of the 70ies when the entire urban space was forced to artificially grow. Thus, in 1956 in Romania it was 84.4% rural population and in 1977 only 53.9% (practically, in 20 years, almost 30.5% of Romanian population was forced to move from rural to urban areas) [3]. Various studies emphasised that the urbanization process in Romania was mainly generated by the industrialization and by the socialisation of the agriculture from the period 1949-1962. Thus, a longitudinal research about the migration of the working force from agriculture (Sandu, 1977:110) shows the following evolution:

Table 1 The report between industrial and agricultural jobs

the weight of the ***industrial workers*** within the total working force	+12,6%	1956 – 1966	–14,0%	the weight of the ***peasants*** within the total working force
	+17,9%	1966 – 1977	–21,1%	

Thus, the collapse of the totalitarian regime and the rediscovery of freedom have generated a massive wave of changes in the population structure and profile. After all the restrictions and prohibitions, the Romanian society tries to recovery from a long series of gaps. Parts of them (such birth control or in/out-migration) were quickly solved, but others (such as the rural mentality from the urban space) remain a present problem. During the first decade of democracy, Timisoara has kept the general trend recorded at the national level of demographical decreasing generated, especially, by the liberalization of the aborts, the possibility of family planning, and the possibility of the out-migration.

Economic development

At the end of the 19th century Timisoara became a developed industrial city with more than 60 fabrics (on various domains) and 1200 stores[4] that reflects a quick commercial and industrial progress. During the interwar period Timisoara restarted the growing trend after the difficulties from the beginning of the 20th century. A natural, consistent and sustainable economical development assured a valuable progress for the entire life of the city. This very favourable situation was cancelled by the instauration of the communist regime that has started by the nationalization of the any private property (fabrics, houses, buildings, land etc.), by the inhibition of the any local civic responses and by the generalization of the terror and fear.

During the period between the 60ies and the 70ies, Romania has known a massive process of industrialization and urbanization. Without any scientific or strategic approach, the political goals were to achieve, through an empirical manner, with any costs and sacrifices, a “multi-lateral developed socialist society”. The Romanian society

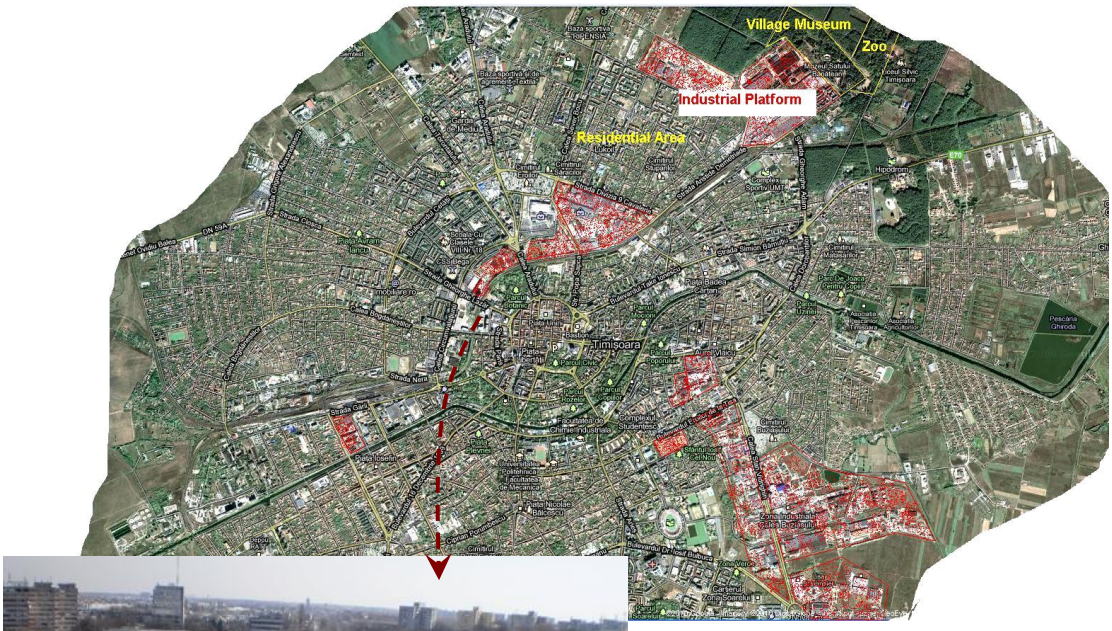
[3] in accordance with Demographic Annual of R.S.R. 1974 and Census 1977

[4] *** *Timisoara* electronic article available at http://www.timisoreni.ro/info/generalitati/Timisoara.html, last accessed 8 February 2010

was deep affected into its structures and functions. Timisoara has passed the similar period of artificial changes with its industrialization process, without a full connection with its cultural background, tradition or specific. Thus, here were built large industrial facilities, dedicated to the income working forces. The city was put under the pressure to growing up in an eclectic and not quite natural manner, with a modern, but, artificial aspect, with high discrepancies among its neighbourhoods.

Into the 80ies, Timisoara has become a "grey" city, integrated in the centralized planned economy forced by the communist political system. The traditional famous enterprises – such "Timisoreana" (1716, beer), Elba (former "Dura", electrical corps from 1921), Guban (1937, chemistry) etc. (all of them under the state control) were interfered with new industrial platforms more or less adequate to the profile and specific of the city. All these industrial areas were built around the residential space, without any strategically estimation of the urban development. Just an example, the Mechanical Fabric was build between the residential area and the agreement area represented by the big park Green Forest and Village Museum. The industrial platform practically blocks the access to this facilities and more than that, does not have any functional connections with these.

Figure 9 – The insertion of the industrial platform between residential area and agreement area



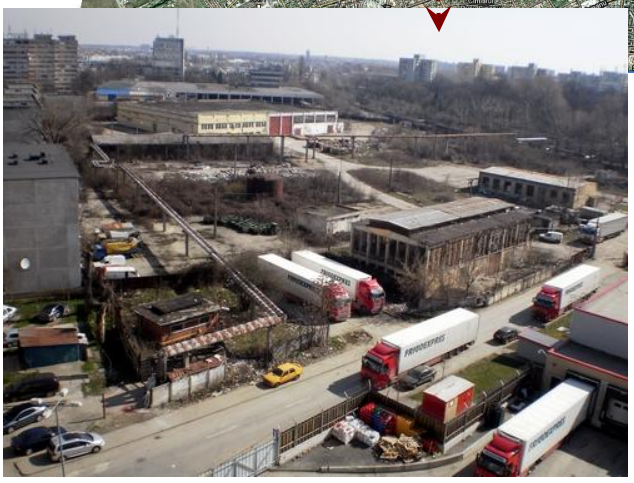


Figure 10 – Former industrial facilities very close by city centre (Source: Bogdan NADOLU)

After the political changes, many of industrialization establishments were shutdown and lots of jobs were lost. But, contrary to other many cases from Romania, the old economical structures were quickly replaced by other new concerns.

Many international corporations have considerate Timisoara an attractive city and now here there are many new companies and business (from computers and electronics to construction and tires, from clothes and footwear to statistics analyze and agriculture). All these have kept in Timisoara the lower rate of unemployment from Romania (less than 2% in 2006 and 2007). The multicultural and multiethnic profiles of Timisoara's population have represented very good reasons for foreign investors. Several multinational corporations have deployed a local subsidiary in or around Timisoara, such: Alcatel Lucent, Coca-Cola, Continental, Draxlmaier, Linde Gas, Nestle, Procter&Gamble, Siemens, etc. Thus, right now in Timisoara is living the larger Italian businessmen community, and also, a large community of investors from the Arabian space, and from Turkey.

Settlement system

In the second half of 19th century many technological innovations have improved the urban life of Timisoara: the telegraphy in 1853; in 1857 Timisoara became the first city from Romania with public illumination with gas; in 1857 Timisoara was connected to the European railroad system; in 1867 the trams with horses; in 1881 there were installed modern phone networks; in 1884 Timisoara became the first city from Europe with electrical illumination on streets; in 1895 the streets were asphalted; in 1899 the electrical trams; between 1912-1914 there were upgraded the sewer systems. Nowadays, the public transportation is assured by a network of trams (145.8km), buses (183.2km) and trolleybuses (70.46km). The streets network inside Timisoara has 574 km with a surface of 603 ha[5]

During 1965-1990, the urban area of the city of Timisoara is extended with residential neighbourhoods and with industrial platforms. Thus, in the 60ies, blocks of bricks have been built inside the central area. At the end of the 60ies, industrial facilities for concrete preparation have been developed, and it was begun the construction of the residential areas for workers, with a radial emplacement, around the old city fortress. Between 1970 and 1990 was reached the peak of the house's building from the entire history of the city. The industrial areas of the city were concentrically developed (Burgess, 1925): industrial buildings surrounded by residential places with urban infrastructure, public institutions and utilities, commercial spaces etc.

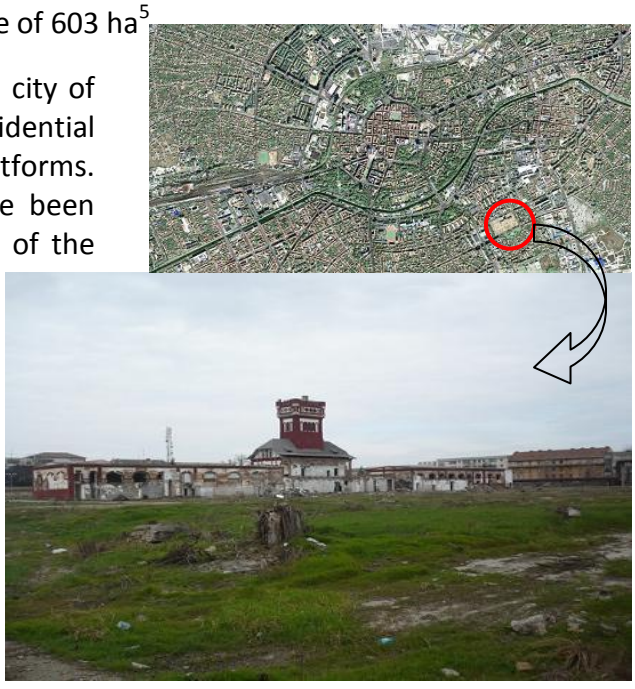
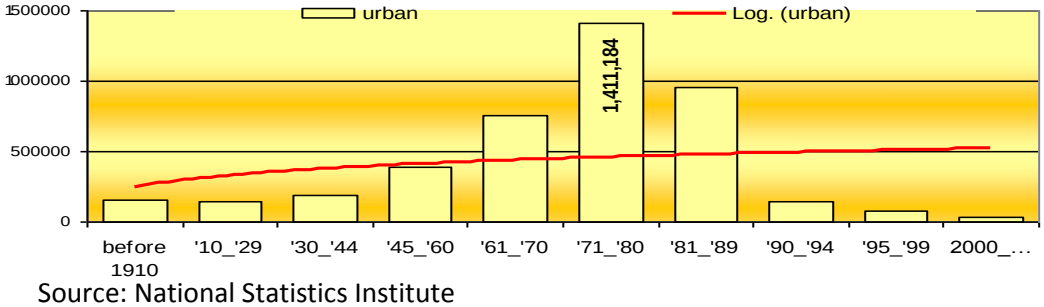


Figure 11 – Former Shambles of Timisoara – an historical building (Source: Bogdan NADOLU)

[5] Data presented by the INSEE (National Statistics Institute) and available on the Timisoara City Hall web page, at http://www.primariatm.ro/timisoara/index.php, last accessed 15 January 2010

A large part of this urban development was based on demolishing entire neighbourhoods of houses on built on ground. All the affected owners have received (by judicial decisions) money for the land and a block-flat apartment for the house. The high level of urbanization (1971-1980) can be observed in the following chart concerning the building of houses at national level (INSSE http://www.insse.ro/cms/files/RPL2002INS/vol3/tabele/tab11.pdf):

Figure 12 – The evolution of the building of houses (national level)



Source: National Statistics Institute

The prices of the houses and the rent costs in the period 1968-1990 was relative stable, but without correspondence with the real price of the building (during this period we cannot speak about a functional real estate market). The stock house and the volume of the house constructions did not relate to the demand came from the market, but to the political projections related to the industrial development and to the changing of the rural population in the working class of the urban "new man". In 1985, the urban population of Romania achieves and exceeds the level of 50%; nowadays the urbanization grade is above 55%.

Other factors

Another main characteristic of Timisoara is its geographical position close by the borders with Hungary and with Serbia (former Yugoslavia). Thus, Timisoara was always in contact with other foreign models and its specific multicultural profile has assured a very good assimilation of all these contents (from economical local interchanges to cultural representations, from fashion to TV programs and so on). This label of "the most occidental city of Romania" has had a consistent contribution in attracting people from all around the country. By other hand, the accessibility of 2 foreign countries (Serbia and Hungary) has represented a facilitation of the perspective of international (out-) migration. From Timisoara it was quite easy to go in Europe, especially when the political condition has allowed that. Nowadays, is not a big deal to go shopping or to SPAs in Hungary, or to work in Hungary or in Germany, or even to have a house in the Hungarian villages close to the border.

There are not less important the metropolitan strategies developed and implemented by the municipality. In the next several years this territory will become a metropolitan area and this new administrative status will have a major impact on the city. For around 5 years all the villages close to city have been very attractive residential neighbourhoods. Thus, we can already talk about a process of suburbanization that will have very soon an administrative and financial support from the municipal budget; even this trend will affect directly the city core.

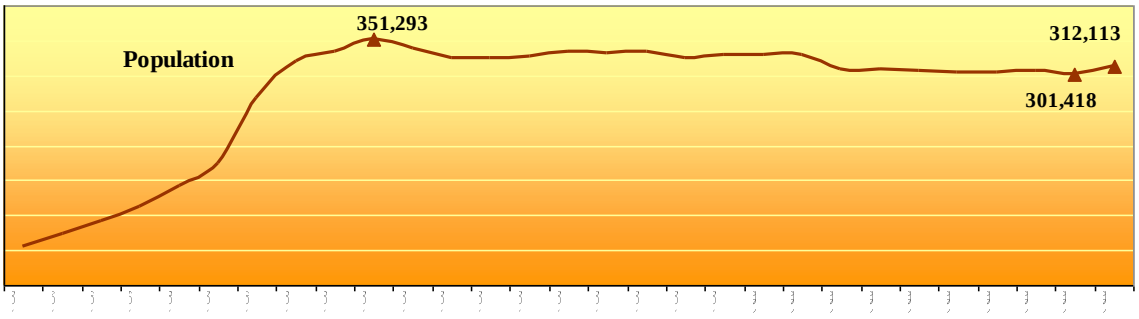
2.2 Trajectories of urban shrinkage

Timisoara is nowadays an important urban centre, the single one 1st rang city with metropolitan[6] area in Romanian development region V West. Until 1990, the city has had a continuous growing with different intensities. At the beginning of the 19th century, it was quite slowly because of the natural evolution and it has increased and became politically accelerated during the communist period. After the political change, the city has started another natural process of reconfiguration, directly visible in the population decreasing; this process was convergent with the national and euro-regional trends. The decline of Timisoara's population is almost constant during the period 1990-2008 and, thus, it clearly reflects that the growing of the city under the totalitarian regime was not a functional, adequate and pertinent model. It is expected that the city would achieve its optimal population density, in the close future (since it was recorded the first post-communist population growing in 2009 comparative with 2008). In the next paragraph, we will analyze the specific pattern of shrinking for Timisoara.

Spatial-temporal patterns

The main social, economical, political and cultural changes that have affected Romania after 1989 have generated an increasing of the population dynamic. Timisoara has become an attractive destination for a lot of persons from other regions, but, in the same time, a starting point for the out-migration towards the Central and Western Europe, USA and Canada. From 1990 until 2008 the population of Timisoara has decreased with 50.000 inhabitants (14.1%). At July 1st, 2009 in Timisoara were recorded 312,113 inhabitants.

Figure 13 – The evolution of the population of Timisoara



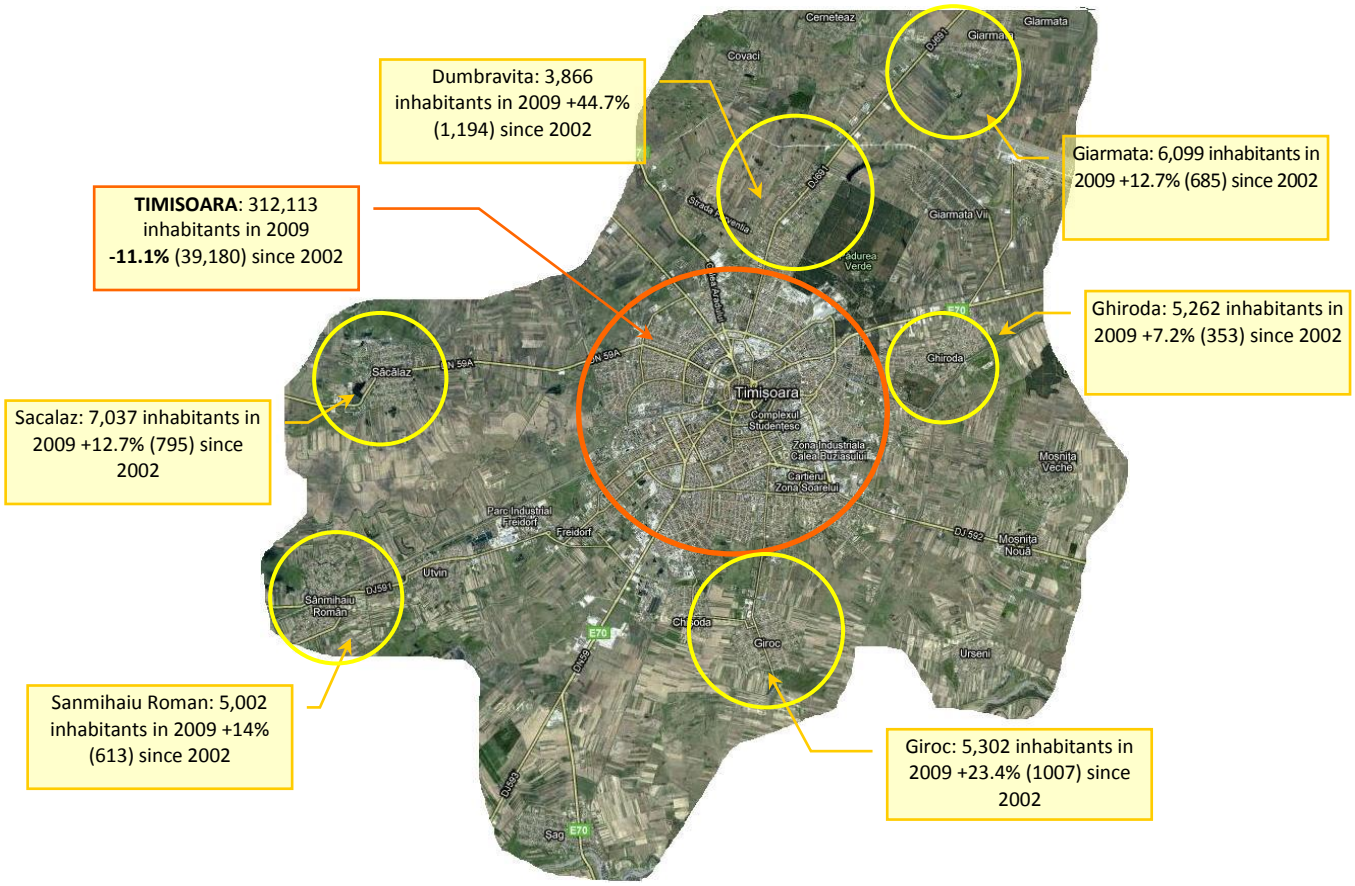
Source: Statistical Yearbook

Even if the statistical quantification of the city population reflects a descendent trend (from 1990 until 2008), the general preview of Timisoara is a positive one. At national level, Timisoara was established as the "Growing Pole" for the west Romanian region, and recently has been evaluated as the 2nd city in Romania after

[6] Conform with the Law No. 351, from July the 6th, 2001 dedicated to The National Plan for the Territorial Arrangement –The section the 6th

Bucharest (on the basis of socio-economical development criteria). The city kept an attractive image for other parts from the country. The houses' prices were very high and the constructions of new buildings were quite consistent, both with a specific diminution because of the global crisis. But the process is not the same around the city's influences space. All villages around Timisoara have known a significant process of development (the trend is to become a residential area, similar with West European models). Even the local administration has elaborated a sustainable development strategy for the metropolitan area. This initiative is directly connected with these demographical trends. ***During the last 7 years, the population from the 11 villages involved in the future metropolitan area has grown with 5,774 inhabitants - equivalent to 1.64% from the peak of Timisoara's population*** (into the same period, the Timis County recorded a negative trend)**.** Some examples of these processes can be observed in the following map:

Figure 14 – Timisoara and the evolution of the suburban Centres



Sources: Authors work on the base of Google Map and Official statistic of Timis County Council

Within the context of rural depopulation (specific for the entire national level) the whole growing of the villages near Timisoara represents actually a ***clear process of suburbanization***. In the last decade, this is one of the most important causes for the shrinking phenomenon in Timisoara. After living in blocks flats, the dream of having a house on ground came true for many inhabitants by the news opportunities assured by all villages around the Timisoara. A direct consequence of this local mobility from

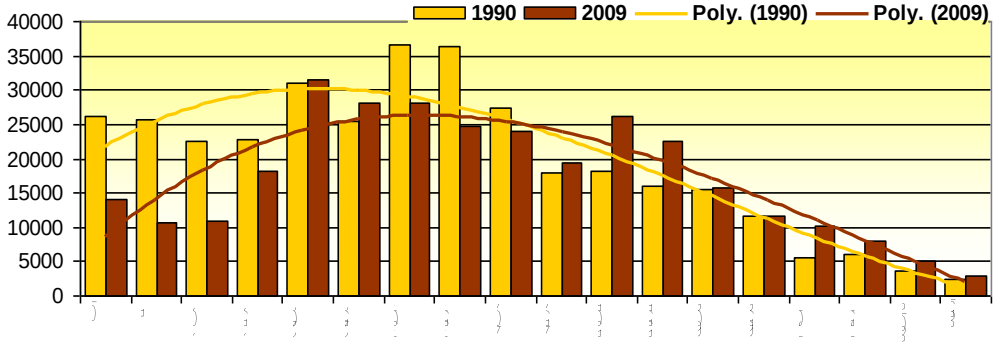
the city to the sub-urban areas is represented by a decreasing of the pressure on the locative spaces (inside of the city) and gradually the decreasing of the population density. All over the city, many apartments from the ground floor of the block with commercial potential were transformed from houses into shops (grocery shops). Others low conditions blocks or houses were step by step demolished or reoriented (i.e. from block flats to offices buildings).

Dynamics

Before that suburbanization trend, for the 90ies, the population decline can be explained by the decreasing of the birth rate (as a general behaviour at national level). Another cause of this manifestation was the out-migration that becomes more and more accessible after the end of the communist period and after the integration in the European Union. These demographical evolutions will be presented in the following pages. Timisoara, as a very important Romanian city, close to Central Europe, with a consistent student population (mostly temporary) has known a high level of dynamics in its demographical structure, profile and configuration. With high levels of incoming and outgoing inhabitants, the city of Timisoara has represented for a long period an occidental gate towards the Central and Western Europe, USA and Canada.

The decreasing of the population because of the low fertility rate has generated other demographical phenomenon, such ageing. In the Figure 15 can be observed the general trend of the population's ageing: from 1990 (yellow) to 2009 (brick-colour) the age structure of the population is moving to higher levels (left):

Figure 15 – The comparative of the age structure 1990 vs. 2009

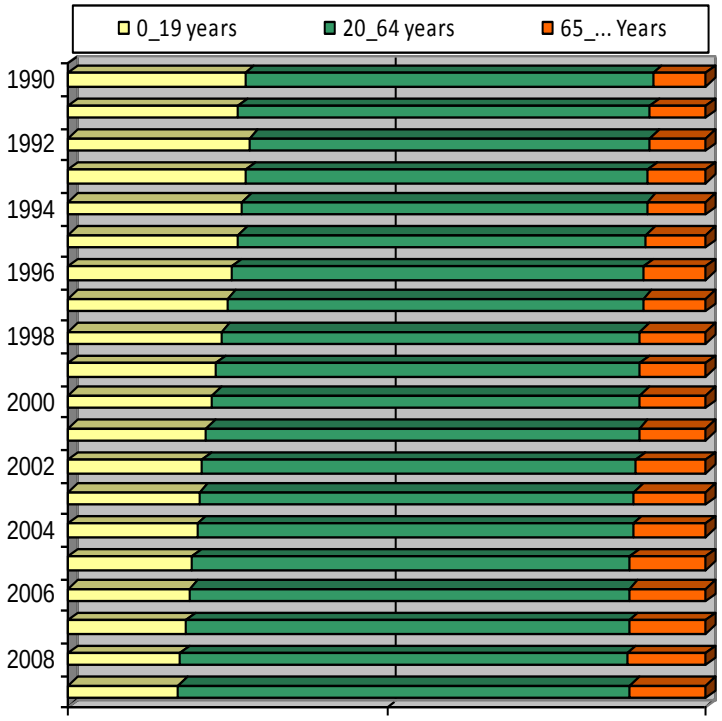


Source: National Statistics Institute

If in 1990, the peak of the trend line is around 20-24 years, in 2009 this level is increasing with 10 years (to 30-34). The differences between the two periods (1990 and 2009) are significant especially for younger ages: 0-4 ages 46.5%, 5-9 ages 58.3% and 51.8% (the decreasing in 2009 from 1990).

This evolution from younger to older is also clearly visible in the following graph concerning the age structure of the population:

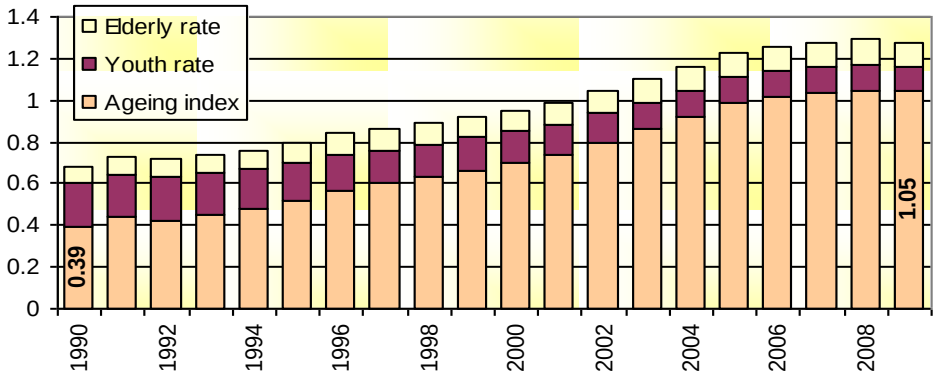
Figure 16 – The evolution of the age structure



Sources: National Statistics Institute

Thus, the values from left, drew with yellow, reflect a continuous decreasing of the younger population (0-19 years) from 27.7% in 1990 to 17.3% in 2009. The two others categories have recorded a complementary growing from 63.9% to 70.7% for the population between 20 and 64 years and from 8.3% to 12% for the elderly population. The significant decline of the younger, with 10.4% is also directly related with the decreasing of the birth rate, and represents a national trend. These continuous changes of the reports between younger and older population are represented, also, in the elderly, youth and ageing index (Figure 17):

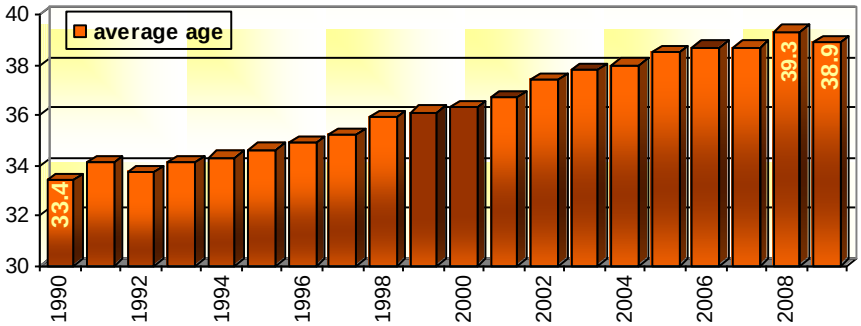
Figure 17 – The evolutions of the index of elderly, youth and ageing



Sources: National Statistics Institute

The trend increasing the age of population is clearly reflected also in the evolution of the average age, from 33.4 years in 1990 to 38.9 years in 2009:

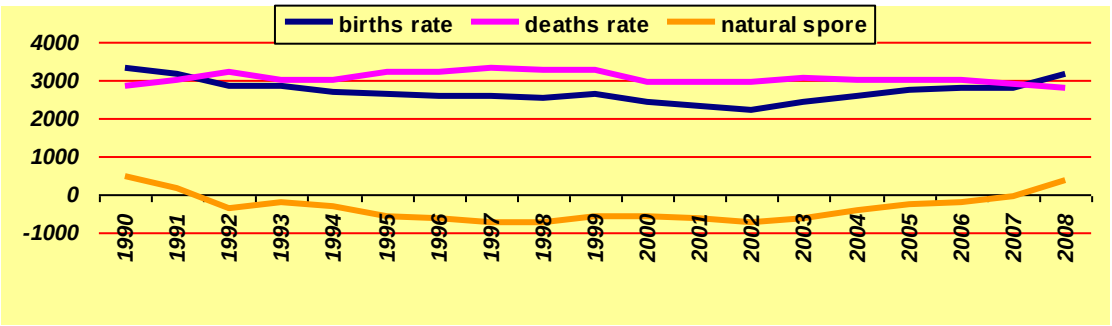
Figure 18 – The evolution of average age



Source: National Statistics Institute

In around 20 years, the average age of the population has grown with 5.9 years in 2008, and after that it has decreased with 0.4 years. With this trend, the average age of Timisoara's population has a real risk to cross the limit of fertility (49 years) with all massive negative consequences for its further development. With other words, the year 2009 has a different profile or manifestation comparatively with the previous period. A direct explanation can be found in the evolution of the natural change of population (Figure 19):

Figure 19 – The evolution of the natural change of population



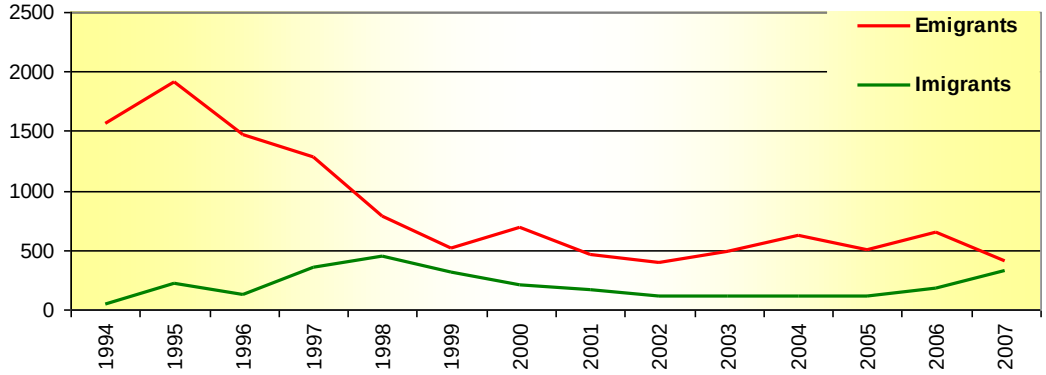
Source: National Statistics Institute

Thus, from 1991 the natural spore has become negative, and the number of births was in a continuous decreasing until 2002. From 3,302 newborn babies in 1990 it was a decrease till 2201 in 2002 and after that the number increased till 3,175 in 2008. From 1992 to 2007 the number of deaths was constantly higher than the number of births. ***The negative spore during this period has cumulated a decreasing of population with 7,718 inhabitants (2,19%).***

Another aspect, that is very relevant for this analysis, is represented by the evolution of the emigrants and immigrants from Timisoara. Due to little firm evidence regarding the migration of the population, it is still quite difficult to use some general indicators, such as: "establishing in the locality" or "leaving the locality". The current procedure does not record the national destinations of the persons that are moving

out/in the city. So, the only available statistics with the regional migration is the census. Other relevant data that can be used is represented by the evolution of emigrants and immigrants:

Figure 20 – The evolution of emigrants and immigrants



Source: National Statistics Institute

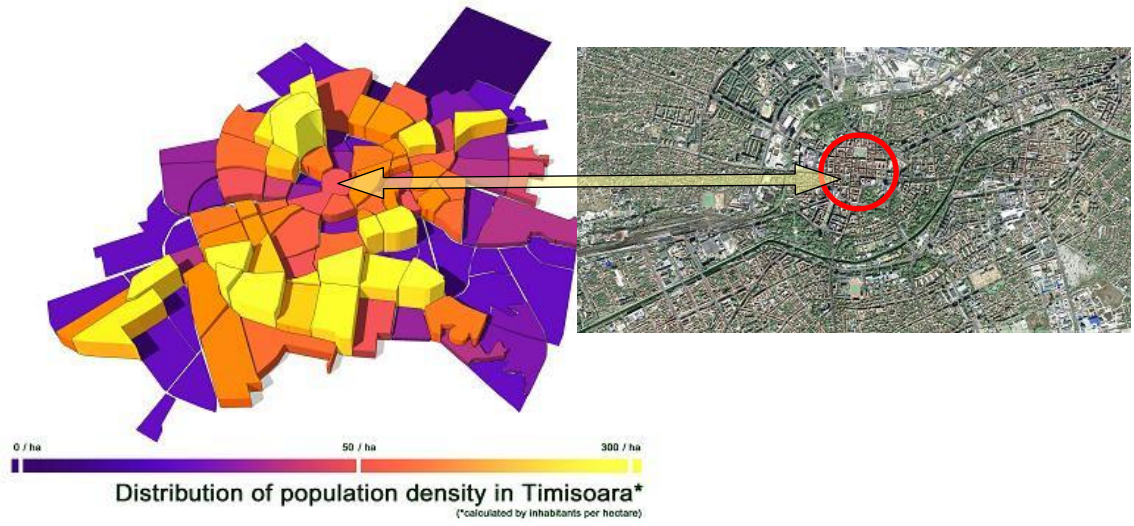
Thus, from 1994 until 2007 the number of persons that are moving from Timisoara in a foreign country was constantly higher than the number of newcomers. During this period, 11,684 of Timisoara's inhabitants have moved away and 2,763 of foreign people moved in the city. These statistics cover especially the ethnic groups (firstly the German population from Timisoara that have permanently established in Germany during the 1990ies). ***By the migration negative balance, from 1994 to 2007 Timisoara has lost 8,921 inhabitants (2.53%).***

3. IMPACTS AND CONSEQUENCES OF URBAN SHRINKAGE

3.1. Patterns of segregation and social cohesion

Even if the shrinking process is a constant reality for the last almost 20 years, the city of Timisoara does not look to be seriously affected. On the basis of the previous analysis, the artificial urbanization that has directly affected the city during the communist period has accumulated a structural pressure that nowadays is practically regularized. We are talking about the persons that can now move away in any foreign country; about the persons from rural areas that were forced to live in the city and which are now unemployed; about the families that can now adopt any measures of family planning; about the persons that were forced to inhabit in uncomfortable block-flats and which have the possibility nowadays to build a house on ground, even not quite in Timisoara but close enough (until 20 km). All these factors have direct influences upon the distribution of the population density across the city. A very professional representation (elaborated by an architectural project) looks like[7]:

Figure 21 – Distribution of population density in Timisoara



Sources: Daniel Tellman

Thus, it can be observed a quasi-eclectic distribution, the quarters with high density (concrete block-flats) been quite mixed with other quarters with low density (historical houses). Generally talking, Timisoara keeps the concentric profile, with 2 or 3 waves of modern construction around the city core but with interactions with former villages integrated as historical neighbourhoods. Some industrial facilities

[7] Daniel Tellman, arch. (2009), *Distribution of population density in Timisoara*, from the project *** "Studiul director privind facilitățile sportive şi de agreement în Timişoara" [Director Study about the Sport and Leisure Facilities in Timisoara] elaborated by the company "Plancontrol Arhitecture Office Ltd." and Politechnic University for the Timisoara City Hall, available at http://blog.plancontrol.ro/2009/10/01/studiu-director-privind-facilitatile-sportive-si-de-agrement-din-timisoara/ or at http://commons.wikimedia.org/wiki/File:Densitatea_Populatiei_Timisoara_09.jpg, last accesed 20 March 2010

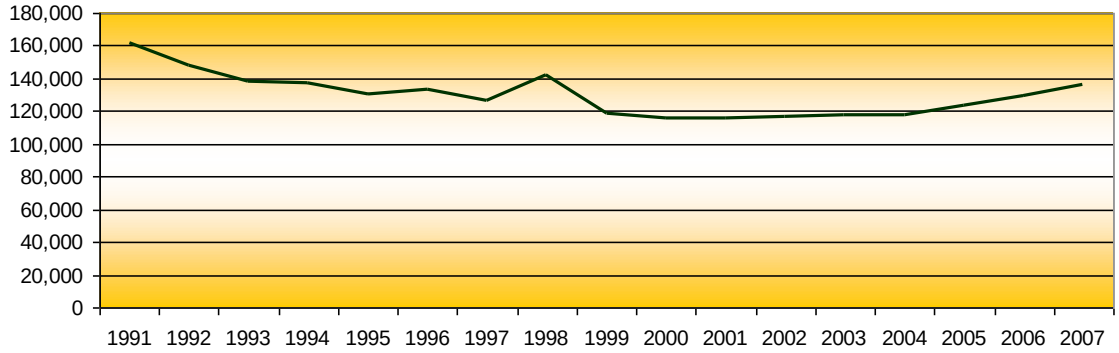
that are not working any more represent a very valuable land close to centre that can be reused in other ways (as residential projects or company buildings etc.). The city trend to extend its influence on the surrounds (under the perspective of the future metropolitan area) and on new and very consistent residential neighbourhoods are developed in all the closest villages.

3.2. Business and employment

The evolution of Timisoara's business area is indirectly reflected by a series of indicators that will be summarily presented forward:

(1). Employees – the 1990s have been characterized by reorganizations and even by the dissolution of some companies which existed at that time, with direct consequence on the decreasing of the number of employed people in Timisoara. Starting with 2000 the local business area records a slight increase reflected by the new employment opportunities for the existing working force. Therefore, the number of unemployed people in Timisoara starts to decrease until a minimal point of 1.6% in 2006 and 2007. With the economical recession this indicator has growing back to around 4% (in 2009).

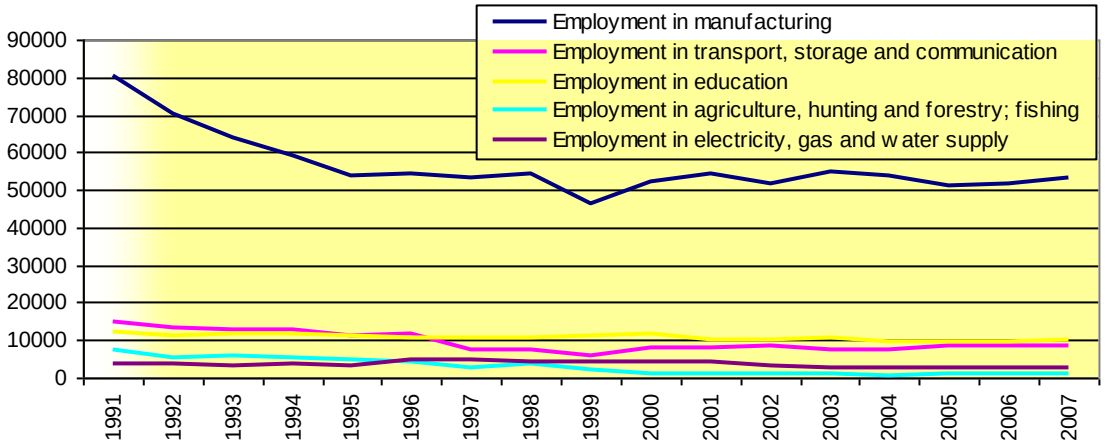
Figure 22 – The evolution of the employees between 1991-2007



Source: National Statistics Institute

The number of employed people per fields of activity also reflects the local business area's dynamic. Therefore we can observe that during the analyzed interval some fields of activity were affected by a decrease of the number of employees while other fields enjoy a constant increase in their number of employees. The regression, with the biggest impact on the number of employed people in Timisoara, can be found within the industrial activities area which has constantly recorded decline concerning the number of employees, reaching by the end of the 90' almost half of the working force volume specific during 1991.

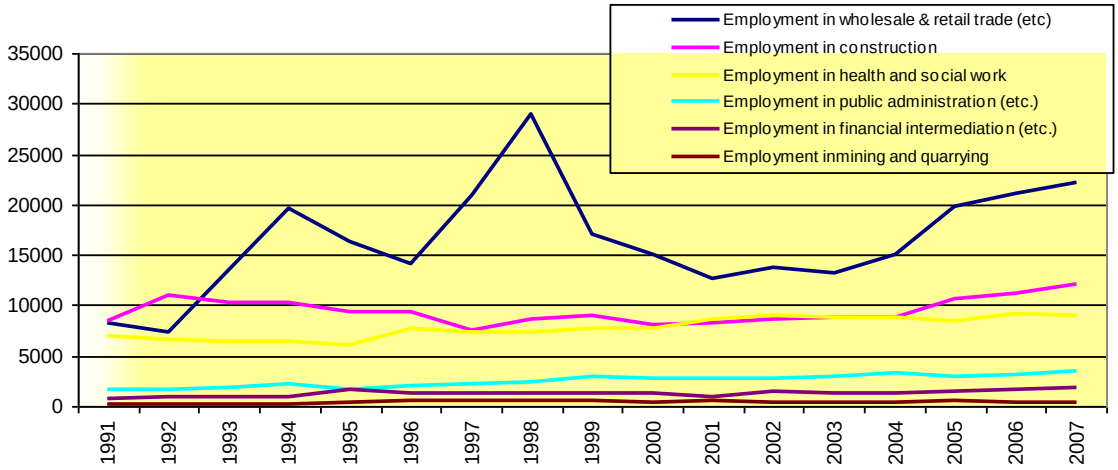
Figure 23 – The evolution of the employment by sector



Source: National Statistics Institute

At the opposite poll, the fields of activity, which enjoyed ascendant evolutions concerning their number of employed people, have had a slow but constant evolution. Within the commercial activities sector (re-tail or en-gross) we observe a quite atypical situation with massive fluctuations among the employees.

Figure 24 – The evolution of the employment by sector



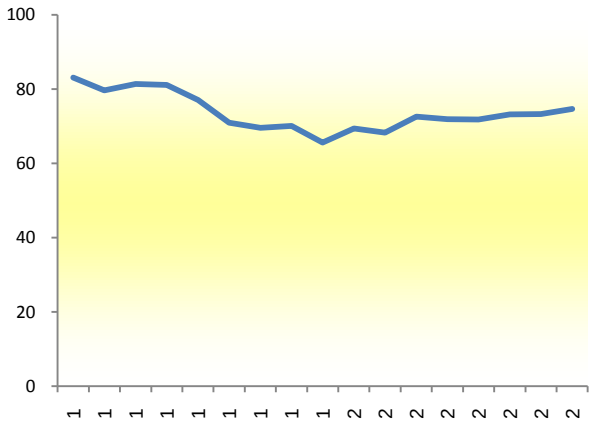
Source: National Statistics Institute

(2.) ***Employment rate and Unemployment rate*** - The picture of the business area and of employment cannot be complete only by reporting it to the number of employees or sectors of activity, without taking into account aspects which concern the population's occupation rate as well as unemployment rate in Timisoara.

The population's occupation rate also reflects the local business area's evolution and the way in which the economic development manages to include the local resources of working force. Analyzing the evolution of this indicator, we observe that it oscillates between the limits of the interval 85 – 65, the maximum being reached in

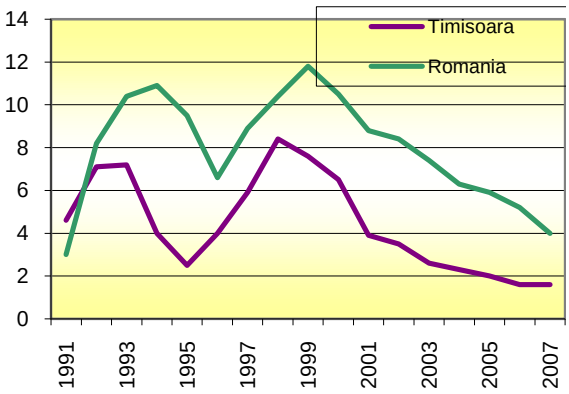
1991 and the minimum in 1999. Starting with the year 2000 we record in Timisoara a slight constant increase among the number of foreign investments. Therefore, we observe an increase of the employment rate at local level. Similar to these structural changes we observe a jumpy evolution of the unemployment rate in the interval 1991-1999. Afterwards, the unemployment rate has recorded descendent evolutions, reaching by the end of the year 2008 in Timis County the lowest level from Romania.

Figure 25 The population's occupation rate



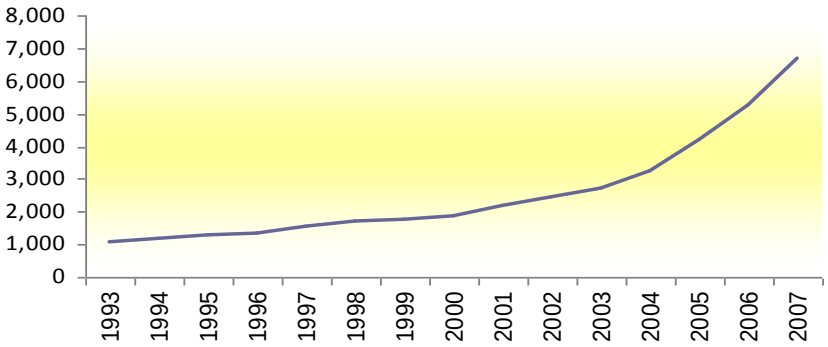
Source: National Statistics Institute

Figure 26 The unemployment rate's evolution



(3). Urban GVA or GDP per head - GDP per head records a quite constant increase by the end of 1999 and may reflect the efficiency of the local business area. After the year 2000, the GDP growth rate records an exponential growing rate, all this due to the foreign investments and also due to the specific activity of this new companies (the car industry develops and also the electronic and IT products industry).

Figure 27 – The evolution of the GDP

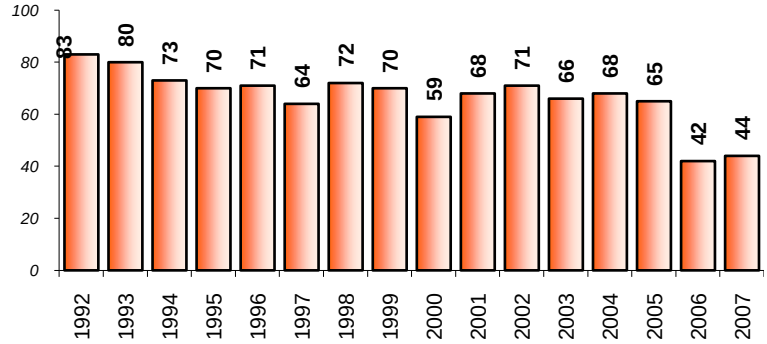


Source: National Statistics Institute

3.3. Social infrastructure and education

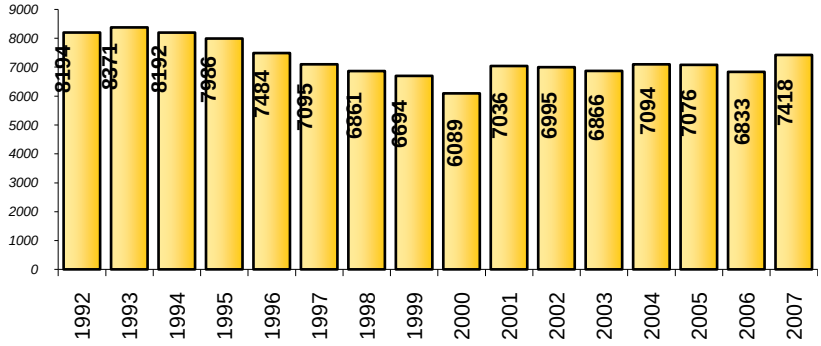
Timisoara's current educational infrastructure includes all fields of education, starting with pre-school education and ending with post-doctorate studies. After longitudinal analyses on the evolution of school infrastructure and the number of pupils we observe that this reflects the social demographic changes that are specific to the population of Timisoara. The first consequences on the educational system in Timisoara as a cause of the social demographic changes refer to the preschool education that was affected by the decreasing birth rate. To be more precise, the decrease of birth rate has caused a decrease of the target population, which the preschool education was addressing to. Therefore, the number of children enrolled in kindergartens and schools has decreased, which caused suppression, merging or the temporally closing of some kindergartens and/or day nurseries. The 15-years interval to which we refer in the next graphic reflects the descendent evolution of the number of kindergartens and day nurseries in Timisoara. This number has reached its minimum in 2006 when only half of the kindergartens and day nurseries, which existed at the beginning of the 1990s, were functional.

Figure 28 The evolution of the number of kindergartens in Timisoara



Source: National Statistics Institute

Figure 29 The evolution of the number of children in Timisoara who regularly go to kindergarten

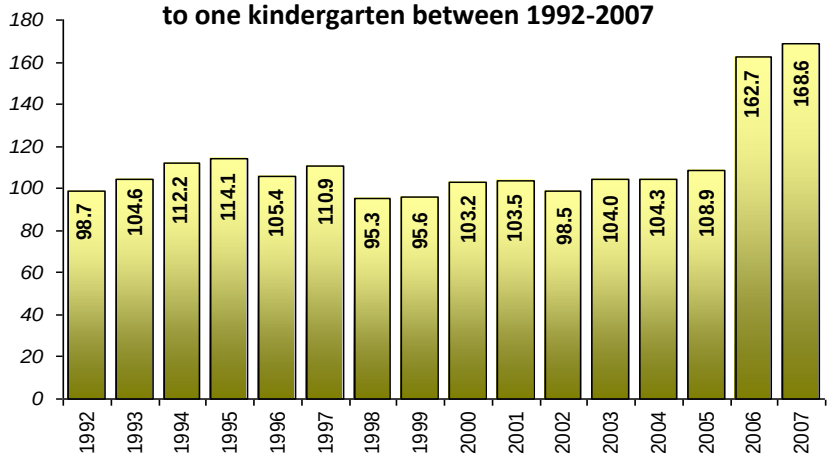


Source: National Statistics Institute

Reported to the number of children included in preschool educational system, we observe, that until the year 1999, there has been an obvious descendent tendency. Later, a slight increase among the number of children enrolled in kindergartens/day nurseries was recorded, followed by a quite constant evolution.

If we combine the two indicators – the number of kindergartens and day nurseries in Timisoara and the number of children who regularly go to these institutions - we can observe an excessive agglomeration tendency, reflected by the average number of children who come back to kindergarten/day nursery. The last two years of the analyzed interval reflect an over agglomeration of preschool institutions and it seems that the average number of children reported to a kindergarten reaches twice the mean existent at the beginning of the year 1990. This situation, on medium and long term, may have as consequence a decrease of the educational level and a reorientation of the population towards other communities where the access to the educational infrastructure is easier.

Figure 30 The dynamic of the average number of children reported to one kindergarten between 1992-2007

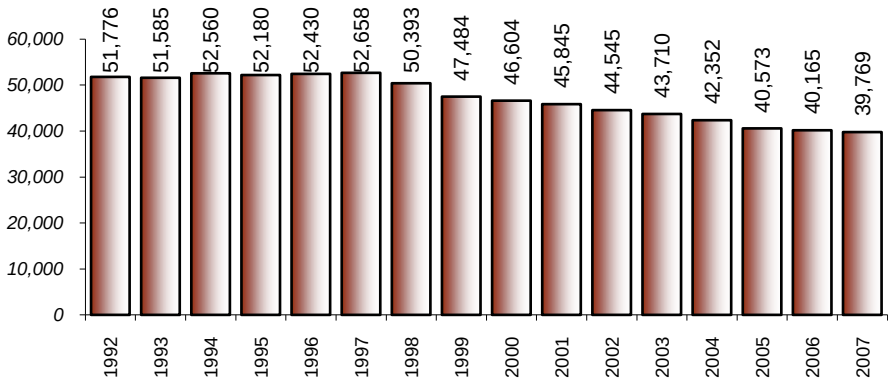


Source: National Statistics Institute

In comparison with preschool education, secondary and high-school education have recorded quite constant evolutions, and, when some schools were temporally suspended, their number did not generate impact consequences over the children's access to education. This time, the social demographic changes caused by the decreasing birth rate have generated quite delayed changes in the local school network. The direct consequences will be recorded after approximate 7 years when the children's generation reaches the age necessary to enrol in the educational network. The number of children enrolled in the local school network dynamics records an obvious descending tendency. Therefore, in 2007 we observe a decrease in the number of children who regularly go to local schools with almost 20% less in comparison with 1990. This situation may be, either, due to the fact that the birth rate is reduced or to the fact that, although the children have been born in Timisoara, they later left the city along with their families. Another reason for this decrease may be that of the augmentation of the number of children not enrolled in the school network. We may appreciate that, starting with 2009, the number of children enrolled in school will increase in comparison with the previous years.

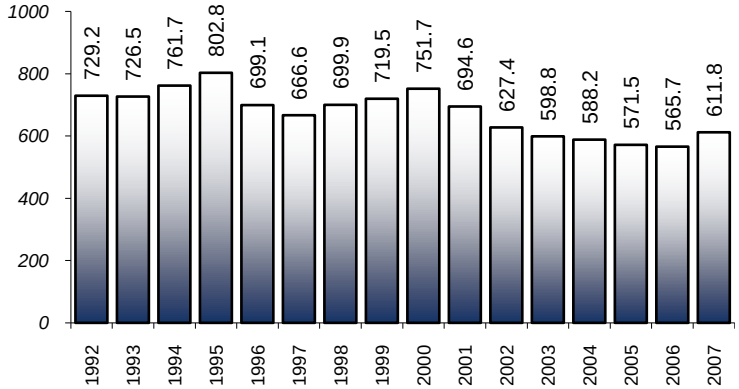
Compared to the over agglomeration of kindergartens, in the last years, in the school network we can observe a slight un-crowd. The number of children reported to a school is decreasing, which means that these changes have a favourable character for the educational climate.

Figure 31 The evolution of the number of children from Timisoara who regularly go to school



Source: National Statistics Institute

Figure 32 The average number of children enrolled in the schools of Timisoara

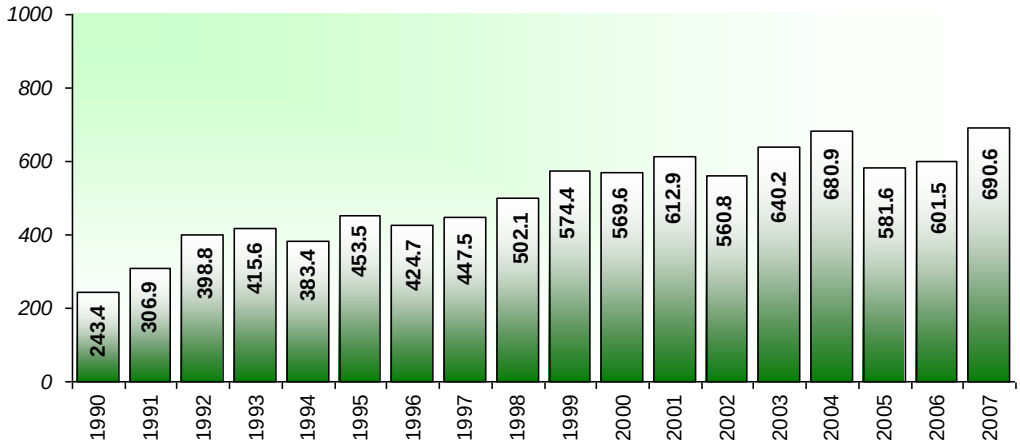


Source: National Statistics Institute

Along with the educational component, the social activities network includes as indicator the access to medical services. Concerning this issue, we draw our attention to the number of medical doctors reported to 100 000 inhabitants. Analyzing this indicator we observe an augmentation of the access to medical services. This situation appears not only because Timisoara is a university city with medicine universities and university clinics but, also, because of the governmental measures of alignment to the standards of the European Community which have made easier the access to medical services.

In the analyzed interval we can observe a 2,8 times increase of the number of doctors reported to 100 000 inhabitants in comparison to 1990.

Figure 33 – The evolution of number of doctors per 100,000 inhabitants



Source: National Statistics Institute

3.4. Housing

To compensate the lack of data on the rent and sale price of households, we undertook a field survey, conducted between January-February 2010. The investigation included 60 subjects of whom, 26 are living in Timisoara at least for 30 years. All respondents are, at least, in one of the following circumstances: (1) have rented a household for a minimum period of two years, (2) own a household for at least two years, (3) rent and have in property one or more residential properties between 1965 to 2009. Research tools included the following items: 1. Period of time in years, 2. The way housing: rent or property, 3. Dwelling space of the household which is stipulated in the property or rental contract, 4. The price of real estate sale or the price of a month's rent (for the period 1990 to 2009 the prices of rent have been circulated in Romanian lei, German marks, U.S. dollars or Euros).

In determining the average sale price for a period of one year, were required at least 3 valid responses and to determine the rental price at least 5 valid responses. Most of the rental leases were not based on legal documents, but only mutual agreements of the owners with tenants, while sales were traded under legal contracts. For this reason, we chose to increase the number questionnaires about the rent, having no other means to verify the data. The results of the field surveys show that, throughout the period 1970 – 1990, prices remained unchanged and were: 2.23 lei/sq m for rent and 1,895.1 lei/sq m for sale.

Inflation ran high due to reform failures, the legalization of owning foreign currency in 1990, and the bankrupt policies of the former communist era, reaching rates as high as 300% per year in 1993. Several factors, such (i) Inflation (which was very high in Romania of 1990s), (ii) Timisoara's economical development, (iii) the increasing demand for housing and (iv) the relatively easy access to bank loans properties, all concur to raise the purchase price of housing and rents. In the 2000s, house prices reached and exceed sales prices of similar homes in most developed European countries. In 1991, the average selling price was 2,148 lei/sq m, in 1996: 206,460.7 lei/sq m, and in 2004 reached 19,563,722.4 lei (ROL)/sq m. On July 1st, 2005, the leu was re-valued at the rate of 10,000 "old" lei (ROL) for one "new" leu (RON), thus, psychologically, the purchasing power of the leu was bought back in line with those of other major Western currencies. Afterwards, the sales prices of households continue to grow, even if a lower rate: in 2006: 3,276.6 RON/sq m, and in 2009: 3,989.5 RON/sq m.

After the fall of the communist regime, the housing constructions have been almost stopped. During the beginning of 1990s, were completed only the residential buildings that were started in the 1980s. Later, the construction of apartment blocks has known a weak trend, driven in particular by some state initiatives, developed primarily by National Housing Agency (NHA). NHA has made a few housing construction Programs for youth or for certain occupational categories (medical residents). Recently, in the month of May 2009, the Romanian Government launched the "First House Program" that guarantees 80% of the mortgage loans for a maximum of 60,000 Euro per apartment. However, the program has no significant results so far. The real estate market strongly stimulates the new constructions, especially after 2000, when appear the first major housing developers in the constructing industry in Timisoara. Also, we can observe the increasing trend of dwelling space, from 12.35 sq m/person in 1990 to 16.97 sq m/person in the year 2009 and increased preference for buying houses on the ground at the expense of flats in blocks of concrete. The 2000-year's period is marked by residential areas extending into peri-urban areas, in communes and villages surrounding Timisoara. Still respecting the projection of Burgess's concentric model, Timisoara is developing many satellite residential areas radial around the city. Currently are included in such rural areas the Communes: : Dumbrăvița Ghiroda, Chişoda, Giroc, Urseni, Uliuc, Moşnița Veche, Moşnița Nouă, Giarmata Vii, Giarmata, Sânandrei, Săcălaz, Romanian Sânmihaiu, German Sânmihaiu, Sag. The infrastructure aspects and the poor access

Figure 34 – Demolished building into the historical centre

Source: Bogdan NADOLU

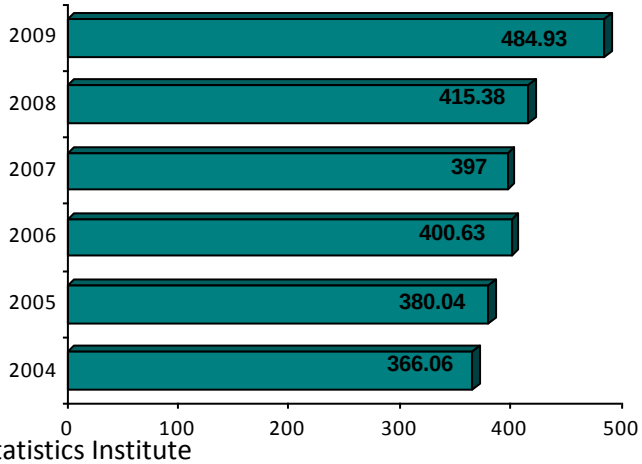
to utilities in these new luxury residential neighbourhoods in rural areas surrounding Timisoara remain still problematic. Working-class residential areas constructed during the communist regime were systematically projected, with all the necessary elements to ensure the building housing infrastructure, utilities, schools, kindergartens, libraries, police stations, post and telecommunications, commercial, etc. Currently, there are not still strong enough developers that can support such extensive construction projects. On the other hand, the real estate market, the fiscal and banking system cannot guarantee safe investments on this scale.

3.5. Technical infrastructure

In the description of currently available infrastructure of Timisoara we focused on the following aspects considered to be essential: the public transport network, the heating system, water and sewerage supply and the sanitation network.

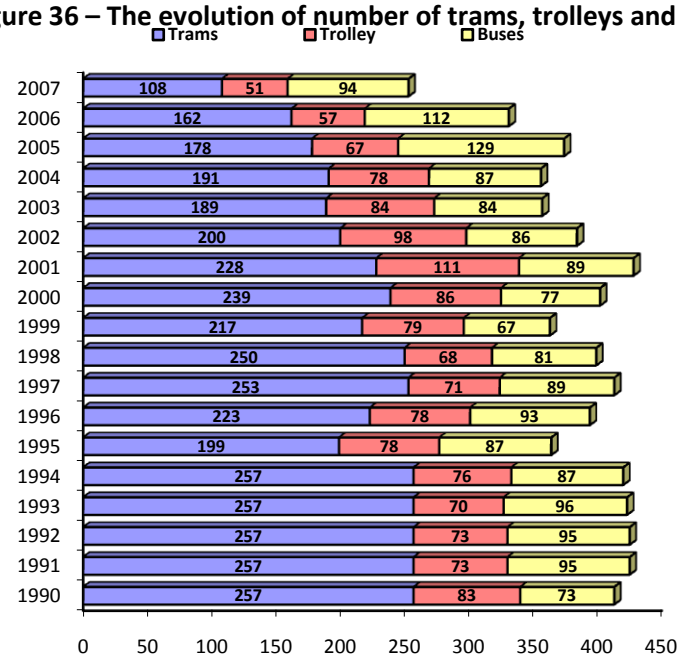
Transport Network - The network of local transport is served by an autonomous company (Autonomous Transport Direction of Timisoara - RATT), which is administrated by the municipality. The local public transportation includes three types of vehicles: buses, trolley buses and tramways, and serving 35 local routes and surrounding areas. In the recent years, the length of the local routes recorded a number of changes, RATT continuously trying to fold the shape of lines in order to support local transportation needs. Since 2009, local transportation includes in its services some supplementary suburban town areas. For these additional transport routes are being used mainly buses, which required a partial renewal of the car park of the local transportation provider. It also can be observed a decrease in the number of existing vehicles (the car park has decreased by 39% compared to 1990) and the decrease in the number of trams in operation. In the following graphs (Figures no 35 and 36) we can observe the evolutions of the routes length and of the public transportation car park of the RATT.

Figure 35 – The evolution of the routes length



Source: National Statistics Institute

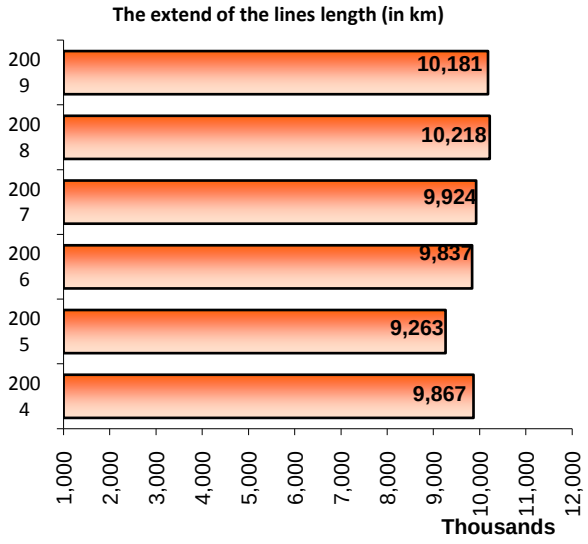
Figure 36 – The evolution of number of trams, trolleys and buses



Source: National Statistics Institute

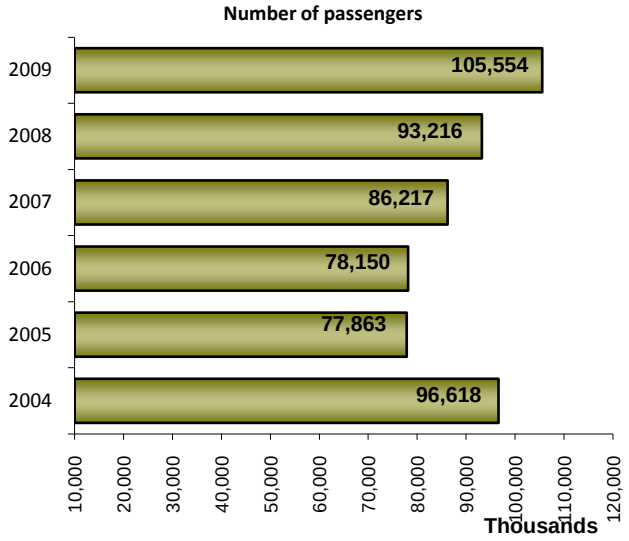
In the last five years the local public transportation provider has registered a constant extent of the lines length, the number of passengers has increased and also the number of kilometres per year shows a positive trend.

Figure 37 – The extension of the lines length



Source: National Statistics Institute

Figure 38 – The evolution of number of passengers'

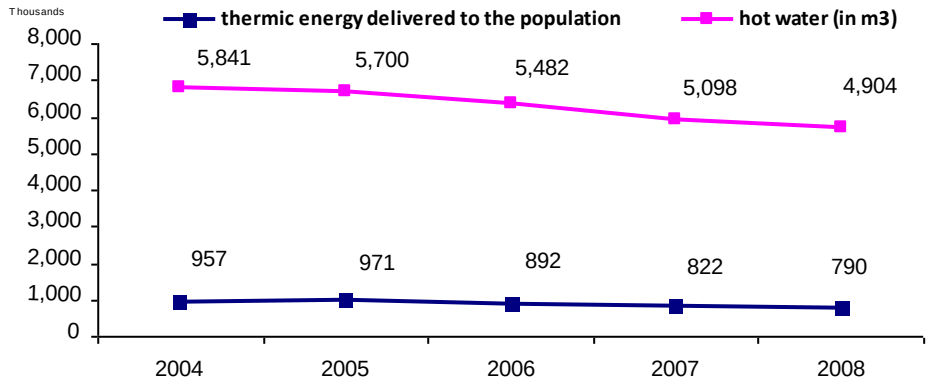


Source: National Statistics Institute

The heating system

Timisoara is one of the few large cities in Romania where the centralized public heating system is still functional, despite the decrease in the number of users of this service. Over the past 10 years at the local level, due to relatively high costs and especially the need to improve thermal comfort, some buildings have opted for separate heating systems. The most popular and commonly used heating systems are the private gas-fired central heating.

Figure 39 – The evolution of thermo energy and Hot water

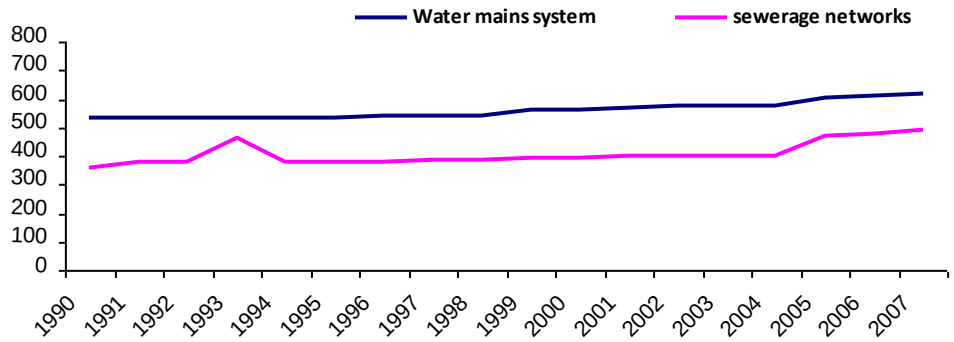


Source: National Statistics Institute

Previous figure shows the descending trend of centralized public heating system, reflected both in terms of heat supplied to the population and hot water distributed to users. The future trend is likely to decline more consistently, generated mainly by eliminating the present subsidies offered by the municipality for these utilities. For this reason, the final price will increase at least with 50% and possibly many users will renounce of these services in favour of an alternative heating system.

Water supply system and sewerage networks - The water supply and sewerage services are currently provided by the regional operator AQUATIM, which in recent years has extent constantly to other localities, namely counties of Romania. Timisoara's water supply is made from two separate sources: surface and depth. The processing of the drinkable water is achieved through three waterworks. More than two thirds of the water, which are distributed to consumers, comes from the Bega Water Treatment Station and the rest of the city's drinking water requirement is provided from underground sources through Ronat Water Treatment Station and Urseni Water Treatment Station (data from Annual Report of AQUATIM, 2009). Along with the mentioned sources of water, in recent years many wells were drilled in public area and offered in every district of the city, their number reaching to 100 in 2009. Water distribution network has a total length of 616.5 km (in 2007) and wastewater collection network reaches 489 km (in 2007).

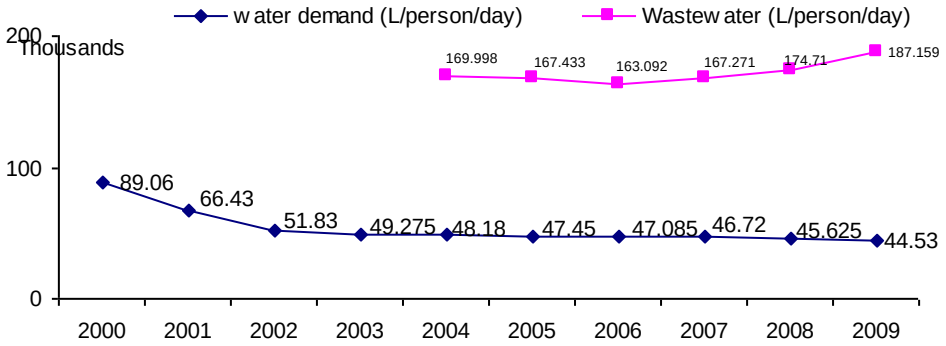
Figure 40 – The evolution of the Water mains system and the Sewerage networks



Source: National Statistics Institute

Wastewater and the rain water is collected by the gravitational fall, than is passed to the wastewater unit system and is processed by Sewage Treatment Station of the city (built in 1912, and are constantly subjected for process of modernization).
Water demand for the period 2000 - 2009 shows major changes, reaching in 2009 almost half of the average consumption of year 2000. (This observation is based only on the water distribution network not including the use of public and individual wells drilled. Also the decrease in the consumption average is a result of the network improvement and modernisation, which decreases the water loss in the network).

Figure 41 – The evolution of water demand and Wastewater (L/person/day)



Source: National Statistics Institute

Waste disposal - As a recent improvement in the residue collecting system, we can observe the electrical and electronics waste collection, process implemented starting in the 2007 year. The following figure reflects the dynamic process of collection of electrical and electronics waste collection.

Figure 42 – The evolution of waste disposal (Kg/person)

Source: National Statistics Institute

3.6. Land use and environmental quality

Physical geography and geology:

Figure 43 – Timisoara, Union Square

Timisoara is located in the south-eastern Pannonian Plain, in the area of the rivers Timis and Bega ramble. Timisoara highest rate is in the northeast, the neighbourhood "Între Vii" at the 95 m and the lowest point is to 84 m in the west district Mehala (Ronaț). Administrative territory of the city landscape and suburban municipalities include the following main units: High Plain Living Giarmata Vii – Dumbrăvița, Low Plain of Torontal and Alluvial Plain of Bega.

In terms of tectonic, Timisoara is located in an area with east-west oriented strike fault, marked by the existence of Șanovița extinct volcano.
Seismological studies show that seismic lines Periam-Variaș-Vinga intersect the northwest of Timisoara and Radna-Parța-Şag the southeast of the town. Timisoara is a very active seismic centre, but from the numerous earthquakes observed, only few have exceeded the magnitude 6 on the Richter scale[8]. As a result of the petro-graphic composition of surface formations, on the territory of Timisoara appeared the compaction clay-sandy substrate phenomenon. This is highlighted in Elisabetin and Cetate districts, and also elsewhere where they formed *cravers*.

[8] in Local Environmental Action Plan – Timis County, adopted by the Environmental Protection Agency Timis in 2008, http://www.apmtm.ro/index.htm

Waters:
Bega River has its spring in Poiana Ruscă Mountains (Padeş peak at 1150 m altitude). Bega canal was built between 1728 and 1760 and includes the distance from Timisoara to the point of Begas watering, over a length of 115 km. The Bega canal was projected for navigation, access barges of 600-700 tonnes and an annual transportation capacity of 3,000,000 trucks. Timisoara has many natural lakes, formed in adjacent areas to city (near Kuncz district, near village Giroc, Snakes Lake in the Green Forest) and lakes of anthropogenic origin (Fratelia, Freidorf, Moşniţa, Mehala, Youth Strand), notable by their location on line contact with suburban towns.

Timisoara's groundwater is quite close to surface, with a depth between 0.5 - 4 meters. Ground water layers increase the depth from north to south, from 4 m to 80 m deep and contain drinking water, thus providing some urban consumption requirements. Timisoara has also deep water, captured in Union Square (hypothermal), south of Cetate and district Fabric (meso-thermal) with therapeutic value, used for the spa[9]. Thermo-mineral waters are used for cure and recreation resort in Timisoara by supplying the Hospital of Physiotherapeutic spa and two sports facilities with swimming pools.

Green Areas:
A key role in achieving an ecological balance of the surroundings, is the harmonization of relations between built and open spaces and planted area of the city and surrounding territory. In the ecological functionality and equilibrium, the green areas have the ability to retain precipitation, reduce and purify water leaks, fix soil, retain alluvial materials, regulate temperature and air humidity. Green space in the public domain in Timisoara is represented by parks, squares and street alignments and comprises a total of 168,500 trees[10].

According to the National Institute of Statistics, at 31.12.2006, the total area of green spaces in Timisoara was 502 ha, consisting of: Parks 87.59 ha; Squares 12.97 ha; Alignments in neighbourhoods 328.58 ha; Forest curtain 22.00 ha; Green Forest area 50.70 ha. In 2006 green space was 15.9 square meters per inhabitant, respectively 0.5 trees per capita. The Government Emergency Ordinance no.114/17.10.2007 foresees that in 2010 the green space should be 20 square meters per inhabitant, which will correspond to 630 ha, and in 2013 the area of green spaces have to reach 26 mp per capita. It results that, in 2013, the total area of green space will increase to 819 hectares in the city of Timisoara. This law was one of the arguments that led to the establishment in 2007 of a specialized structure on environmental issues in Timisoara: "Environment Office" in the City Hall of Timisoara (by HCL no. 124/2007)

[9] Local Environmental Action Plan – Timis County, adopted by the Environmental Protection Agency Timis in 2008, http://www.apmtm.ro/index.htm
[10] Anexa „Timişoara Ecologică" la HCL 201/22.04.2008, p. 16 // „Ecological Timisoara" - Annex of City Hall Ordinance no. 201/22.04.2008, p. 16

Environment:

The Government Emergency Ordinance no. 195/2005 on environmental protection, approved by Law no. 265/2006 stipulates in Article 90 that the local government have tasks and responsibilities for the conservation and protection of urban green spaces, surveillance operators subordinated to prevent the accidental removal of pollutants or uncontrolled waste deposits reusable, provide sanitation localities, maintenance, management markets, public parks and green spaces, promoting a proper attitude about the importance of environmental protection and has the responsibility to have staff for environmental protection[11]. In the Timis County, specialized operators accredited by local councils carry out municipal waste management. In Timisoara, the problem of municipal waste is under basic changes for achievement of the environmental protections standards.

In December 2005, it was initiated a dual collection system involving the distribution out free recyclable waste bins/bags of 240 l (in areas of buildings) or low-density polyethylene bags of 140 l (in areas of homes), mark properly with collection instructions. In Timisoara collection is performed on two fractions: recyclable waste (paper / cardboard, plastic, aluminium dose, PET) and household garbage. Currently dual-collection system is being implemented in the whole city and growing in line with the waiver of collection system by battery container as it was found that dual-collection system is more efficient. Hazardous waste is given the highest possible impact on human health and the environment. In Timisoara and in the region this type of waste does not represent a high risk: in the Timis County in 2006, approximately 4% were hazardous waste. *Analysis reports[12] indicate that the environmental conditions in Timisoara in the year 2009 are almost between the normal ranges:*

- The noxious air pollution exceeded the daily limit value for gravimetric determinations at concentrations of particulate matter (dust); the maximum recorded being 77.37 µg/m3 (TM1 station) and representing 154.74% of the limit in accordance with MAPM Order no. 592/2002. Concentrations of sulphur dioxide, nitrogen dioxide, carbon monoxide, ozone and particulate sediments were between normal limits.
- The measurement of acoustics urban and determine the level of noise generated by road traffic equivalent Lech and the activities of companies, by day in accordance with STAS 6161/3-82 in residential areas and roadways and intersections in the vicinity of Timisoara exceed of the maximum permissible limit in most key measurements (as a percentage of 89.65%). In making these determinations was used Bruel & Kjaer sound level meter type 2238 MEDIATOR
- Regarding radioactivity at the city level, the values recorded through gamma dose determinations were within the limits of variation of natural background radiation, without reaching the warning limit.

[11] Emergency Government Ordinance on Environmental Protection no. 195/ 22.12.2005, avaible on National Environmental Guard webpage: http://www.gnm.ro/

[12] Environmental Protection Agency Timis Report on environmental conditions on September 2009, http://www.apmtm.ro/Calitate%20Aer/index.html

3.7. Municipal finances and budget

In Romania, the structure of the local budget includes four distinct areas from where the financial resources of a local community come.

1. **Current incomes**: divided in fiscal income (the ones obtained from fees and income taxes) and revenues income (resulted from items of property and offered by goods and services through the commercial societies of the local council and the City hall, along with resources which derive from fines and the release of certain documents).
2. **Incomes from capital**: obtained from the capitalization of some public institutions' goods, from the sale of the houses built with state funds.
3. **Incomes obtained from financial operations**: collections resulted from miscellaneous loans offered by the municipality (individual but mostly juridical persons), collections from the loan refund for founding some public institutions and services of local interest.
4. **Subsidies**: which come from the Government or from the County Council.

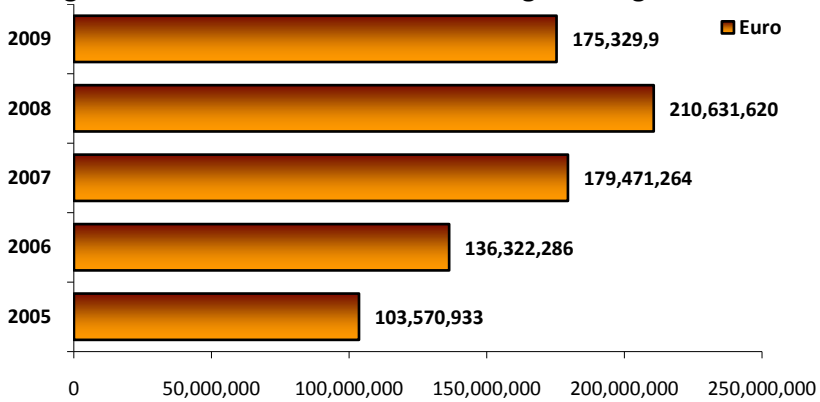
The first three categories of sources of the local budget form the own income category; the amounts from VAT, which are included in the current fiscal incomes area, are an exception. With reference to the local budget situation in Timisoara, we can observe a constant decrease of the sources obtained from outside the local community. This is the reason why we can also observe a more and more emphasized highlighting of the own incomes in the total budget. The last five years (2005-2009) have drawn attention to the financial support received from the local community, which is more and more reduced. During this period the own income weight has increased from 2/3 (63%) to almost 3/4 (74.1%) of the whole local budget.

Table 2 – The sources of incomes at municipal budget (%)

%	2005	2006	2007	2008	2009
Own incomes	63.0	63.6	66.9	72.9	74.1
Other sources incomes	37.0	36.4	33.1	27.1	25.9

Sources: The Annual City Hall's Rapport

Figure 44 - The amount of the local budget during 2005-2009

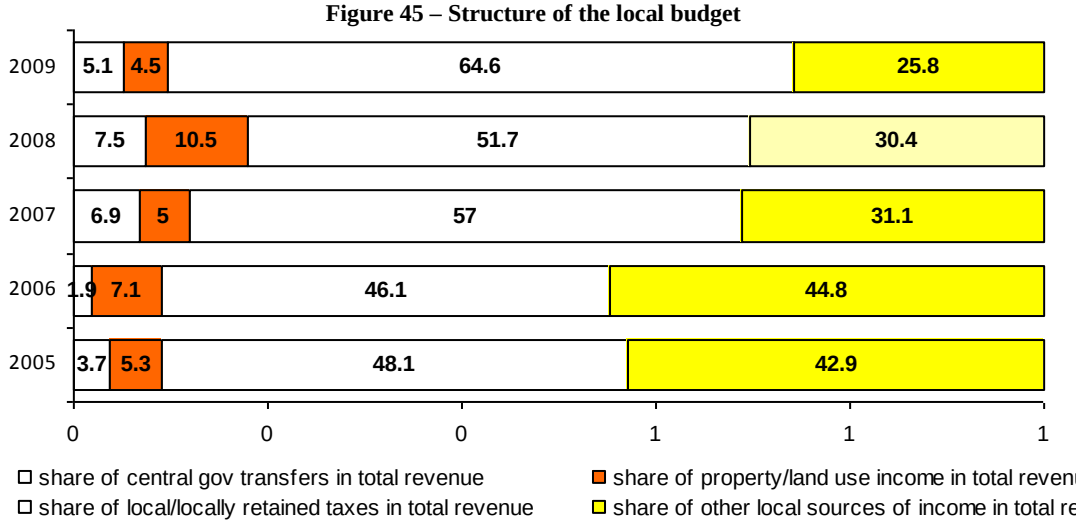


Sources: The Annual City Hall's Rapport

Even though, at first sight, we might consider that the local budget has had a significant upward evolution, we must mention that the roots of this masked „increase" lie in fact in the increasing of local fees and income taxes during 2005-2009 with 2,65 (from 180.611 thousands RON in 2005 to 480.158 thousands RON in 2009). In which concerns its structure, Timisoara's budget has two main parts:

- local fees and income taxes;
- other local sources of income, among which the amounts defalcated from the VAT have the most significant weight.

Figure 45 – Structure of the local budget



Analysing the local budget's structure, we observe rather constant augmentations of the shares of the incomes which result from local fees and income taxes, of the incomes from the category „other local taxes", but also oscillating evolutions of the incomes deriving from the capitalization of the properties own by the municipality. Starting with 2007, the subsidies offered by the Government record a small increase caused by the changes occurred in the financing of undergraduate education, by the increase of the subsidies offered to compensate the unexpected increase of fuel, the ongoing of some national programs financed by the Romanian Government – the thermal rehabilitation of houses, refurbishment of thermal and electric heat, the support offered when forming a family etc. In 2008 we can observe a significant increase of the incomes obtained from the capitalization of the items of property owned by the municipality. The explication for this situation is that during that year a large number of houses, commercial spaces or other spaces owned until then by the City hall or by the Local Council have been sold or leased.

As a conclusion, we may consider that the two pylons of the local budget are not only the local fees and income taxes, but also other local sources of income, which overcome 90% (exception year 2007). Due to this fact, we might estimate that in medium and long term there might appear as consequence a local shrinkage which has as main characters not only the population over which the pressure of the Taxation increases, but also the business area which is equally confronted with an increasing Taxation and will be affected by a possible migration of the workforce.

4. REFERENCES

Ciuhandu Gheorghe (2005) Raportul de activitate al primarului 2005 [The mayor's report of activity 2005] Timisoara City Hall, electronic versions available at http://www.primariatm.ro/index.php?meniuId=1&viewCat=634, last accessed 4 February 2010

Ciuhandu Gheorghe (2006) Raportul de activitate al primarului 2006 [The mayor's report of activity 2006] Timisoara City Hall, electronic versions available at http://www.primariatm.ro/index.php?meniuId=1&viewCat=956, last accessed 5 February 2010

Ciuhandu Gheorghe (2007) Raportul de activitate al primarului 2007 [The mayor's report of activity 2007] Timisoara City Hall, electronic versions available at http://www.primariatm.ro/index.php?meniuId=1&viewCat=1204, last accessed 5 February 2010

Ciuhandu Gheorghe (2008) Raportul de activitate al primarului 2008 [The mayor's report of activity 2008] Timisoara City Hall, electronic versions available at http://www.primariatm.ro/index.php?meniuId=1&viewCat=1671, last accessed 8 February 2010

Ciuhandu Gheorghe (2009) Raportul de activitate al primarului 2009 [The mayor's report of activity 2009] Timisoara City Hall, electronic versions available at http://www.primariatm.ro/index.php?meniuId=1&viewCat=2055, last accessed 8 February 2010

Davidson, Karen (2004) *Property fragmentation. Redistribution of land and housing during the Romanian democratisation process.* Upsala Unviersitet. Geografiska Regionstudier, nr. 60, 78 pp.

Opris, Mihai (2009) *Timişoara – monografie urbanistică*, [*Timisoara – urban monograph*], Timisoara: Brumar 35.

Park, Robert, Ernest W. Burgess and Roderick D. McKenzie. (1925) *The City*. Chicago: University of Chicago Press

Sandu, Dumitru, 1977, „Studiu asupra migrației forței de muncă din agricultură" (*Research about the migration of the working force from agriculture*), in *Caiet de studii nr. 64, vol. V, Bucuresti: Institutul de Economie Agrară*.

*** *Raportul anual 2005* [Annual reports 2005], Regia autonomă de apă şi canal Aquatim Timişoara, electronic report available at: http://www.aquatim.ro/uploads/file/rapoarte_anuale/aquatim_raport_anual_2005.pdf

*** *Raportul anual 2006* [Annual reports 2005], Regia autonomă de apă şi canal Aquatim Timişoara, electronic report available at: http://www.aquatim.ro/uploads/file/rapoarte_anuale/aquatim_raport_anual_2006.pdf

*** *Raportul anual 2007* [Annual reports 2005], Regia autonomă de apă şi canal Aquatim Timişoara, electronic report available at: http://www.aquatim.ro/uploads/file/rapoarte_anuale/aquatim_raport_anual_2007.pdf

*** *Raportul anual 2008* [Annual reports 2005], Regia autonomă de apă şi canal Aquatim Timişoara, electronic report available at: http://www.aquatim.ro/uploads/file/rapoarte_anuale/aquatim_raport_anual_2008.pdf

*** Statutul Municipiului Timisoara [The Statute of the City of Timisoara] – electronic version available at http://www.primariatm.ro/uploads/domino/atasamente_hcl/E71493E01FF18868C2256FB600281E9A/Statut.pdf

*** Raportul condițiilor de mediu, septembrie 2009, elaborate de Agenția Pentru Protecția Mediului Timiș [Environmental Protection Agency Timis Report on environmental conditions on September 2009], http://www.apmtm.ro/Calitate%20Aer/index.html

***Anexa „Timişoara Ecologică" la HCL 201/22.04.2008, p. 16 [„Ecological Timisoara" - Annex of City Hall Ordinance no. 201/22.04.2008, p. 16]

***Ordonanța de Urgență a Guvernului nr. 195 din 22.12.2005 privind Protecția Mediului, disponibilă pe site-ul Agenției Naționale a Mediului: www.gnm.ro [Emergency Government Ordinance on Environmental Protection no. 195/ 22.12.2005, avaible on National Environmental Guard webpage: http://www.gnm.ro/]

***Planul de Acțiune Locală pentru Protecția Mediului Timiș, adoptat în 2008 de Agenția pentru Protecția Mediului Timiș, disponibil pe www.aptm.ro/index.htm [Local Environmental Action Plan – Timiș County, adopted by the Environmental Protection Agency Timis in 2008, http://www.apmtm.ro/index.htm]

The Timisoara's portals:

http://www.timisoara.ro/
http://www.e-timisoara.info/
http://www.timisoara.com/
http://www.timisoreni.ro/

5. ANNEX: RELEVANT TABLES FROM DATABASE

Table 3 – Population growing rate % (Figure 8)

	1955-1966	1966-1977	1977-1985
growing rate (%)	22.5	52.8	19.7

Source: Statistical Yearbooks

Table 4 – The evolution of the building of houses - national level (Figure 12)

	urban
before 1910	156,381
'10_'29	140,146
'30_'44	184,792
'45_'60	386,803
'61_'70	760,205
'71_'80	1,411,184
'81_'89	958,446
'90_'94	144,300
'95_'99	830,47
2000_…	34,270

Source: National Statistics Institute

Table 5 - The evolution of the population of Timisoara (figure 13)

1900	55,820
1910	72,555
1930	91,580
1948	111,987
1956	142,257
1966	174,243
1977	266,353
1985	318,955
1989	333,365
1990	351,293

1991	338,920
1992	325,704
1993	325,359
1994	327,830
1995	333,049
1996	332,277
1997	334,098
1998	324,304
1999	328,148
2000	329,554

2001	328,263
2002	308,765
2003	308,019
2004	307,265
2005	303,640
2006	303,796
2007	307,347
2008	301,418
2009	312,113

Source: National Statistic Institute

Table 6 - The comparative of the age structure 1990 vs. 2009 (Figure 15)

	1990	2009
0-4	26,234	14,038
5_9	25,790	10,761
10_14	22,622	10,895
15_19	22,774	18,203
20_24	30,997	31,457
25_29	25,486	28,191
30_34	36,671	28,069
35_39	36,386	24,800
40_44	27,402	24,104
45_49	18,030	19,426
50_54	18,116	26,147
55_59	15,961	22,519
60_64	15,492	15,874
65_69	11,745	11,630
70_74	5,521	10,174
75_79	6,123	7,911
80-84	3,626	5,053
85-…	2,317	2,861

Source: National Statistics Institute

Table 7 - The evolution of the age structure (Figure 16)

	0_19 ani	20_64 ani	65_... Ani
1990	27.7	63.9	8.3
1991	26.7	64.5	8.8
1992	28.4	62.7	8.9
1993	27.9	63	9.1
1994	27.4	63.3	9.3
1995	26.6	63.9	9.5
1996	25.8	64.5	9.8
1997	24.9	65.1	9.9
1998	24	65.7	10.3
1999	23.3	66.4	10.3
2000	22.5	67.1	10.4
2001	21.7	67.8	10.5
2002	21.1	67.8	11.1
2003	20.6	68.1	11.3
2004	20.2	68.3	11.5
2005	19.5	68.6	11.9
2006	19	68.9	12.1
2007	18.5	69.5	12.1
2008	17.6	70	12.4
2009	17.3	70.7	12

Source: National Statistics Institute

Table 8 - The evolutions of the index of elderly, youth rate, ageing rate and average age (Figure 17 and Figure 18)

	Ageing index	Youth rate	Elderly rate	average age
1990	0.39	0.21	0.08	33.4
1991	0.44	0.2	0.09	34.1
1992	0.42	0.21	0.09	33.7
1993	0.45	0.2	0.09	34.1
1994	0.48	0.19	0.09	34.3
1995	0.52	0.18	0.1	34.6
1996	0.57	0.17	0.1	34.9
1997	0.6	0.16	0.1	35.2
1998	0.63	0.16	0.1	35.9
1999	0.66	0.16	0.1	36.1
2000	0.7	0.15	0.1	36.3
2001	0.74	0.14	0.11	36.7
2002	0.8	0.14	0.11	37.4
2003	0.86	0.13	0.11	37.8
2004	0.92	0.13	0.11	38
2005	0.99	0.12	0.12	38.5
2006	1.02	0.12	0.12	38.7
2007	1.04	0.12	0.12	38.7
2008	1.05	0.12	0.12	39.3
2009	1.05	0.11	0.12	38.9

Source: National Statistics Institute

Table 9 - The evolution of the natural change of population (Figure 19)

	births rate	deaths rate	natural spore
1990	3,302	2,830	472
1991	3,136	2,984	152
1992	2,824	3,207	-383
1993	2,836	3,026	-190
1994	2,692	2,988	-296
1995	2,610	3,187	-577
1996	2,572	3,193	-621
1997	2,580	3,309	-729
1998	2,531	3,274	-743
1999	2,648	3,249	-601
2000	2,400	2,967	-567
2001	2,324	2,973	-649
2002	2,201	2,963	-762
2003	2,396	3,031	-635
2004	2,575	3,014	-439
2005	2,755	3,004	-249
2006	2,810	3,014	-204
2007	2,807	2,880	-73
2008	3,175	2,810	365

Table 10 – The evolution of emigrants and immigrants (Figure 20)

	Emigrants	Imigrants
1994	1,554	45
1995	1,914	210
1996	1,464	125
1997	1,278	349
1998	775	440
1999	514	305
2000	688	208
2001	452	155
2002	386	101
2003	485	111
2004	619	106
2005	500	111
2006	646	177
2007	409	320

Source: National Statistics Institute

Table 11 – The evolution of the employees between 1991-2007 (Figure 22)

1991	161,730
1992	147,308
1993	138,379
1994	137,140
1995	130,545
1996	133,375
1997	126,573
1998	141,827
1999	117,981
2000	115,828
2001	115,037
2002	116,098
2003	117,317
2004	117,431
2005	122,934
2006	128,994
2007	135,551

Source: National Statistics Institute

Table 12 - The evolution of the employment by sector (Figure 23)

	Total employees	Employment in manufacturing	Employment in transport, storage and communication	Employment in education	Employment in agriculture, hunting and forestry; fishing	Employment in electricity, gas and water supply
1991	161,730	80,420	14,950	12,362	7,456	3,846
1992	147,308	70,231	13,155	11,318	5,228	3,884
1993	138,379	63,649	12,866	11,528	6,048	3,327
1994	137,140	58,921	12,806	11,955	5,565	3,471
1995	130,545	53,795	11,081	11,356	4,641	3,381
1996	133,375	54,410	11,626	10,601	4,183	4,540
1997	126,573	53,031	7,536	10,412	2,920	4,698
1998	141,827	54,081	7,612	10,898	3,582	4,325
1999	117,981	46,178	5,990	11,172	2,246	4,117
2000	115,828	52,106	8,242	11,530	1,107	4,194
2001	115,037	54,249	8,157	10,021	1,190	4,074
2002	116,098	51,514	8,295	10,025	1,008	3,004
2003	117,317	54,613	7,716	10,503	896	2,792
2004	117,431	53,794	7,285	9,560	763	2,705
2005	122,934	51,259	8,304	9,449	1,119	2,705
2006	128,994	51,897	8,599	9,609	1,166	2,691
2007	135,551	53,500	8,542	9,895	1,132	2,785

Table 13 – The evolution of the employment by sector Figure 24

	Employment in wholesale & retail trade (etc)	Employment in construction	Employment in health and social work	Employment in public administration (etc.)	Employment in financial intermediation (etc.)	Employment inmining and quarrying
1991	8175	8463	7030	1653	815	191
1992	7402	11016	6645	1612	998	201
1993	13586	10289	6424	1906	975	161
1994	19590	10312	6434	2118	985	269
1995	16387	9353	6048	1678	1707	442
1996	14087	9323	7786	1983	1340	523
1997	20799	7489	7397	2167	1358	569
1998	28863	8619	7390	2292	1357	530
1999	17052	9065	7754	2853	1279	476
2000	15013	8023	7764	2795	1344	432
2001	12624	8335	8575	2830	991	462
2002	13756	8548	8986	2817	1508	409
2003	13107	8882	8733	2903	1346	389
2004	15086	8871	8872	3222	1248	384
2005	19805	10572	8470	2958	1460	547
2006	21022	11171	9078	3128	1646	374
2007	22141	12013	9054	3446	1894	386

Source: National Statistics Institute

Table 14 - The population's occupation rate (Figure 25)

1990	83.1	2000	69.4
1991	83.1	2001	68.3
1992	79.7	2002	72.6
1993	81.4	2003	71.9
1994	81.1	2004	71.8
1995	77.1	2005	73.2
1996	71	2006	73.3
1997	69.6	2007	74.7
1998	70.1		
1999	65.6		

Source: National Statistics Institute

Table 15 - The unemployment rate's evolution (Figure 26)

	Timisoara	Romania
1991	4.6	3
1992	7.1	8.2
1993	7.2	10.4
1994	4	10.9
1995	2.5	9.5
1996	4	6.6
1997	5.9	8.9
1998	8.4	10.4
1999	7.6	11.8
2000	6.5	10.5
2001	3.9	8.8
2002	3.5	8.4
2003	2.6	7.4
2004	2.3	6.3
2005	2	5.9
2006	1.6	5.2
2007	1.6	4

Source: National Statistics Institute

Table 16 - The evolution of the GDP in Timisoara – Euro (Figure 27)

1993	1,058		2001	2,157
1994	1,187		2002	2,440
1995	1,297		2003	2,712
1996	1,298		2004	3,214
1997	1,560		2005	4,160
1998	1,679		2006	5,267
1999	1,728		2007	6,699
2000	1,869			

Table 17 - The evolution of the number of kindergartens in Timisoara (Figure 28)

1992	83	2000	59
1993	80	2001	68
1994	73	2002	71
1995	70	2003	66
1996	71	2004	68
1997	64	2005	65
1998	72	2006	42
1999	70	2007	44

Table 18 - The evolution of the number of children in Timisoara who regularly go to kindergarten (Figure 29)

1992	8,194	2000	6,089
1993	8,371	2001	7,036
1994	8,192	2002	6,995
1995	7,986	2003	6,866
1996	7,484	2004	7,094
1997	7,095	2005	7,076
1998	6,861	2006	6,833
1999	6,694	2007	7,418

Table 19 - The dynamic of the average number of children reported to one kindergarten between 1992-2007 (Figure 30)

1992	98.72	2000	103.2
1993	104.64	2001	103.47
1994	112.22	2002	98.52
1995	114.09	2003	104.03
1996	105.41	2004	104.32
1997	110.86	2005	108.86
1998	95.29	2006	162.69
1999	95.63	2007	168.59

Source: National Statistics Institute

Table 20 - The evolution of the number of children from Timisoara who regularly go to school (Figure 31)

1992	51,776	2000	46,604
1993	51,585	2001	45,845
1994	52,560	2002	44,545
1995	52,180	2003	43,710
1996	52,430	2004	42,352
1997	52,658	2005	40,573
1998	50,393	2006	40,165
1999	47,484	2007	39,769

Table 21 - The average number of children enrolled in the schools of Timisoara (Figure 32)

1992	729.2	2000	751.7
1993	726.5	2001	694.6
1994	761.7	2002	627.4
1995	802.8	2003	598.8
1996	699.1	2004	588.2
1997	666.6	2005	571.5
1998	699.9	2006	565.7
1999	719.5	2007	611.8

Table 22 – The evolution of number of doctors per 100,000 inhabitants (Figure 33)

1990	243.4	1999	574.4
1991	306.9	2000	569.6
1992	398.8	2001	612.9
1993	415.6	2002	560.8
1994	383.4	2003	640.2
1995	453.5	2004	680.9
1996	424.7	2005	581.6
1997	447.5	2006	601.5
1998	502.1	2007	690.6

Table 23 – The evolution of the local transportations routes length (Figure 35)

2004	2005	2006	2007	2008	2009
366.06	380.04	400.63	397	415.38	484.93

Table 24 – The evolution of number of trams, trolleys and buses (Figure 36)

	Trams	Trolley	Buses
1990	257	83	73
1991	257	73	95
1992	257	73	95
1993	257	70	96
1994	257	76	87
1995	199	78	87
1996	223	78	93
1997	253	71	89
1998	250	68	81
1999	217	79	67
2000	239	86	77
2001	228	111	89
2002	200	98	86
2003	189	84	84
2004	191	78	87
2005	178	67	129
2006	162	57	112
2007	108	51	94

Source: National Statistics Institute

Table 25– The extension of the lines length (Figure 37)

2004	2005	2006	2007	2008	2009
9,867,000	9,263,000	9,837,000	9,924,000	10,218,000	10,181,000

Table 26 – The evolution of number of passengers' (Figure 38)

2004	2005	2006	2007	2008	2009
96,618,000	77,863,000	78,150,000	86,217,000	93,216,000	105,554,000

Table 27– The evolution of thermo energy and Hot water (Figure 39)

	2004	2005	2006	2007	2008
thermic energy delivered to the population	957,273	971,337	891,751	822,150	790000
hot water (in m3)	5,841,321	5,699,502	5,481,896	5,098,000	4,904,191

Table 28 – The evolution of the Water mains system and the Sewerage networks (Figure 40)

	Water mains system	sewerage networks
1990	530	357.1
1991	530	376.3
1992	532	377
1993	532.5	465.2
1994	533.3	380.7
1995	534.6	381.4
1996	537.6	381.9
1997	538.8	383.5
1998	543	388.3

	Water mains system	sewerage networks
1999	559	391.4
2000	562.4	393.1
2001	567.2	397.3
2002	572.2	397.8
2003	572.2	398.2
2004	574.6	398.4
2005	606.5	470.5
2006	610.7	475
2007	615.6	489

Table 29 – The evolution of water demand and Wastewater (L/person/day) - Figure 41

	water demand (L/person/day)	Wastewater (L/person/day)
2000	89,060	
2001	66,430	
2002	51,830	
2003	49,275	
2004	48,180	169,998
2005	47,450	167,433
2006	47,085	163,092
2007	46,720	167,271
2008	45,625	174,710
2009	44,530	187,159

Table 30 – The evolution of waste disposal (Kg/person) - Figure 42

2007	2008	2009
6.21	1.91	2.79

Table 31 – Structure of the local budget (Figure 45)

	2005	2006	2007	2008	2009
share of central gov transfers in total revenue	3.7	1.9	6.9	7.5	5.1
share of property/land use income in total revenue	5.3	7.1	5	10.5	4.5
share of local/locally retained taxes in total revenue	48.1	46.1	57	51.7	64.6
share of other local sources of income in total revenue	42.9	44.8	31.1	30.4	25.8