

Sustainable Development of Russian Cities: Overestimation of Housing Sector Contribution

Abstract

Nowadays all levels of government in Russia pay much attention to the housing sector, suggesting that it has a significant impact on the economic development of the city. In this regard, the research problem is the identification of the interconnection of factors of housing construction, economic and socio-demographic development of the city, in order to make correct adjustments to the city development policy in the management process of local government. We analyzed the panel statistics arrays of the 50 largest cities of Russia for the period from 1997 to 2016. The analysis was carried out by the first-difference method using Stata. The analysis showed that the development of the housing sector does have some impact on the economic development of the city, although the contribution is exaggerated.

Introduction

Every city and town understands that there is some relationship between the function of the local economy and the quality of life that residents are able to enjoy. But sustainable cities tend to view economic development differently from other cities. Sustainable cities tend to see development as a means to an end, a means to achieving a particular type and level of quality of life, locally defined but potentially including a wide variety of quality of life characteristics. Unlike many cities, where economic growth is the imperative for its own sake, or where quality of life is itself defined just in terms of the level of employment and average family incomes, or where there is merely an assumed relationship between economic growth and quality of life (i.e., more growth means a better quality of life), sustainable cities seek to manage economic growth and development to be more consistent with their visions of what kind of community they desire to achieve.

Citizens' quality of life in a frame of sustainable development concept is placed on the global development agenda, it is currently viewed as the ultimate goal of states and nations. City mayors and managers have gone as far as implementing happiness in local policies and demanding approaches to measuring and managing citizens' satisfaction.

In our research we focus on Housing sector that significantly define citizens' quality of life and, on the other hand, play an important role in cities economic development. It is commonly discussed a special role of housing sector in post-soviet countries, that is explained by background of state ownership on residential properties and features of subsequent privatization.

In Russia, the housing issue has historically been and remains particularly acute and painful for both the population and the authorities. This is due primarily to high urbanization and the growth of cities, as well as to a large depreciation of housing stock, low solvency of the population, a lack of resources for the construction of new housing.

For the successful economic and social development of the city, both economic growth, increasing the city's competitiveness, and improving the quality and living standards of the population are necessary. One of the basic criteria for assessing the quality of life of the population is housing provision, the impact and regulation of which is carried out through the means of housing policy. Housing policy is inextricably linked to the first place with the economic development of the city, as well as its socio-demographic development.

Therefore, to date, special attention is paid to the interaction of factors affecting the development of cities: spatial, social and economic. Their optimal interaction ensures the creation of a comfortable urban environment, its balanced and sustainable development. To do this, it is necessary to fully study the processes of urban development and obtain theoretical and practical conclusions for forecasting and improving the management of the city's housing policy. In addition, all levels of government place great importance on housing construction and investment in cities, suggesting that this has a significant impact on the city's economic development.

In this regard, the research problem is the identification of the interconnection of housing construction factors, economic and social-demographic development of the city, in order to make correct adjustments to the city development policy in the management process.

Literature Review

There are many variable definitions of sustainable development coming from various disciplines and with different assumptions about the basic relationship between society and nature. Ideas of sustainable development have a long history in the literatures of both development and environmentalism. There have been a number of important international conferences within which actions towards sustainable development have been debated (and contested) at the highest levels of government. Sustainable development is widely accepted as a desirable policy objective amongst many institutions concerned with the future development of the resources of the globe. Ideas concerning the best way of achieving development have changed over time, but are rarely replaced entirely (Elliott, 2006).

Most definitions of sustainable development encompass the idea that there are three interdependent pillars of sustainable development: environmental, economic and social. They could be presented as three interlocking circles. The objective of sustainable development is to maximize the goals across all three systems and is illustrated by the intersection of these circles. Critically, the model encompasses the understanding that each of the system goals is socially constructed and that achieving sustainable development requires trade-offs; choices have to be made at particular points in time and at particular scales as to what is being pursued and how, and sustainable development requires recognition of the costs involved for particular interests and for groups of people (Elliott, 2006).

Cities are an important subject of sustainable development investigation as they are legally defined entities that have the legitimacy and authority to address issues and problems within their borders. Local authorities usually have the political power and credibility to take initiatives and to assess and deploy resources in innovative ways reflecting unique local conditions. This gives them the capacity to manage, control, experiment, and lead urban development (Portney, 2013). Smart growth cities clearly believe that the consequence of efforts to moderate environmental damage is that they become more livable places. Such cities are able to manage a whole array of quality of life factors, including traffic congestion, the quality of housing, quality of jobs and employment, the amount of capital that stays local, and others.

As for sustainable cities development, authors consider that besides the cities' environmental performance, human needs should be at the center of "sustainable development" assuming high-quality living conditions, including housing (Satterthwaite, 1997). An overview of US cities working definition illustrates that cities develop themselves provide hints as to what they see as important. For example, in Seattle, sustainability has been defined as "long-term cultural, economic, and environmental health and vitality". In Santa Monica, the sustainable communities initiative" seeks to create the basis for a more sustainable way of life both locally and globally through the safeguarding and enhancing of our resources and by preventing harm to the natural environment and human health" (Portney, 2013).

Clearly, cities that take sustainability seriously bring a very different mindset to economic development than cities that don't. Not all cities are as free to pursue smart growth kinds of approaches to economic development as they might like, but the desire to encourage some kinds of economic development rather than others is clearly present. In cities that are most aggressive, the full regulatory and enforcement power is brought to bear, as in green building programs that establish requirements for obtaining building permits. Aggressive efforts to tackle brownfield redevelopment constitute another smart growth activity characteristic of cities that take sustainability seriously. It may be demonstrable that smart growth approaches to sustainable cities produce less economic growth than unregulated approaches to economic growth, but that is not the issue for sustainable cities. Sustainable cities certainly believe they can achieve an adequate and sustainable level of economic growth and development while at the same time safeguarding their environments and their quality of life. Whether all these smart growth economic development activities actually produce or help produce a sustainable city remains to be seen (Portney, 2013).

But, Peter Marcuse argues, that "Sustainability" concept could be ambiguous in the case of "sustainable housing" and "sustainable urban development". "Housing and urban development are conflict-laden arenas: what benefits one hurts another. A landlord's profits are at a tenant's expense; high-rise construction casts shadows on neighbouring land uses; accessibility for one is pollution for another; security for some is taken to mean exclusion of others; profit for business owners may mean layoffs for that business's workers". He suggests, then, that "sustainability" as a goal for housing or urban development just doesn't work" (Marcuse, 1998). Scott Campbell emphasizes the conflict between two priorities of cities sustainable development – economic development and social justice, that is the property

conflict. Social programs for better housing for the poor and public housing is the reverse side of the increased property tax revenues (Campbell, 1996).

Many studies have examined the impact of growth management policies on local housing prices. Generally, common wisdom suggests that anything that impedes the market for land undermines economic growth. In the case of housing prices, such wisdom suggests that growth management reduces the supply of housing, which in turn drives prices up. However, when such policies are accompanied by improved environment, this could produce an “amenity effect”, where the demand for housing goes up, as people increasingly want to live in a cleaner environment. Either way, however, prices rise. A study of cities in Florida adopting and implementing smart growth measures suggests that this aspect of sustainability may well be a negative economic driver. Other research suggests that whether the effects of growth management are negative or not depends on the specific policies used to manage growth (Portney, 2013).

More wide-spread concept in European urban studies is “compact city”. Compact city policies provide opportunities for urban sustainability, but also raise concerns. Although the possibility of negative outcomes must be considered carefully, the potential of the compact city must not be neglected. Compact city policies can contribute to achieving urban sustainability in many, mutually reinforcing ways (Guy and Marvin, 1999; OECD, 2012). In addition to the three key characteristics of the compact city (dense and proximate development patterns; urban areas linked by public transport systems; and accessibility to local services and jobs), the following six sub-characteristics, which relate directly to the potential contribution to urban sustainability, are identified: i) shorter intra-urban travel distances; ii) less automobile dependency; iii) more district-wide energy utilisation and local energy generation; iv) optimal use of land resources and more opportunity for urban-rural linkages; v) more efficient public services delivery; and vi) better access to a diversity of local services and jobs (OECD, 2012).

Discussing “sustainable cities development” or “compact city” paradigms, it is important to understand that they came to replace a “growth machine” model – the value of a fast economic growth of the city due to the housing extensive development and an expansion of the territory. This concept of urban development is expressed in that political, business and financial elites actually merge together in pursuit of growth opportunities and attracting large-scale investments into the city. This ideology largely arose as a result of mass housing construction in the post-war period in USA, the creation of large networks of highways in the world's leading cities. At the end of the Second World War, the massive sprawl of American cities began by incrementing numerous one-story suburbs. The prerequisites for this process, however, lie still in the 1920s and 1930s, when simultaneously there were a sharp increase in the number of private cars and the formation of a mortgage lending system (Ewing, 2002). Nowadays, development in the spirit of a “growth machine” can be observed in the fast-growing medium and large cities of underdeveloped and developing countries, as well as in the BRICS countries, where the continued priority is the maintenance of economic growth through construction. However, the ideology of large-scale growth of the city, the orientation toward extensive construction and related spatial and economic decisions over time led to such significant

problems as the increase in transport tension, the proliferation and rise in the cost of urban infrastructure, the deterioration of environmental conditions, the growth of social inequality, etc.

The "growth machine" concept has been the basis of urban ideology in Russia till the late 1990^s (Korotkova, 2016). Moreover, analyzing the current indicators of local government performance in Russia, related to spatial development, the same ideology can be traced. Such parameters include (Korotkova, 2016):

- the total area of residential buildings (an average of one citizen) that put into operation in one year (square meters);
- the area of land plots granted for construction (sq. meters);
- the area of land allocated individual housing construction (hectares);
- the share of the population who received living quarters and improved housing conditions in the reporting year (percents).

Indicators of economic, social and ecological development are also used as the indicators of local government performance in Russia. Nevertheless, the main political discussion at the municipal, regional and federal levels is precisely focused on strengthening the pace of housing construction and an intense support for the construction sector (Korotkova, 2016).

Concerning that in our research, we investigate an influence of housing sector to cities economic development, given the changes in socio-demographic characteristics of appropriate cities. Examination of the degree that housing sector contributes to city economic development allows to confirm or deny the validity of the "growth model" and, accordingly, identify the directions for the transition to the concept of "sustainable development" for Russian cities.

Research Design

Model

Our study require to identify the impact of housing on economic characteristics, and socio-demographic have been adopted as control characteristics. A conceptual model is presented at Figure 1.

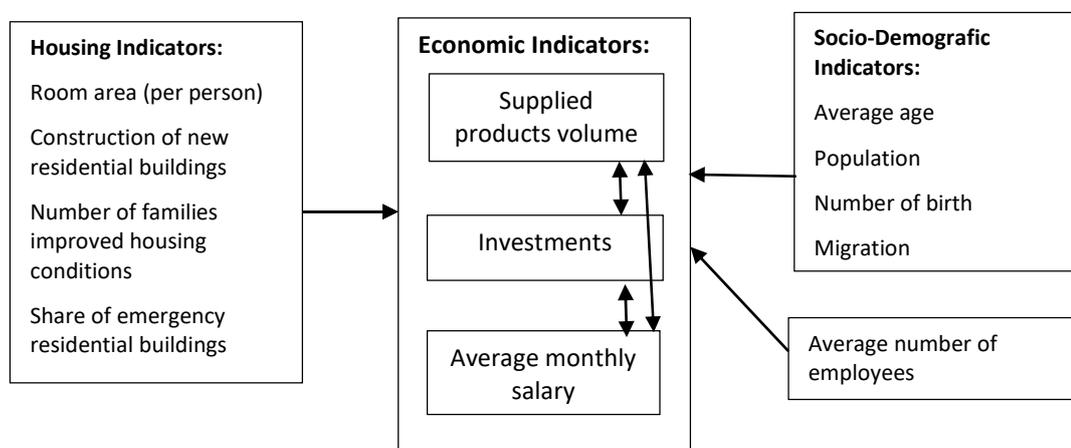


Figure 1. Conceptual Model of Housing Sector Influence

As dependent variables, such economic indicators as the average monthly wage, the volume of goods supplied, as well as investments in fixed assets were chosen. These indicators were chosen not by chance. The growth of the average monthly wage is tracked, as this indicator assesses the growth of the well-being of the population. The volume of supplied goods was chosen because this indicator reflects changes in the level of production, economic potential, also is an analogue of GRP in the city. And the amount of investment in fixed assets is an alternative source, reflecting the growth of the city's investment attractiveness.

In addition, the time lag was taken into account: for the analysis, the resulting economic characteristics of the current year (t) were taken as the average monthly wage and the volume of goods shipped from own production, performed works and services on its own, as well as investments in fixed assets, and compared with other housing, economic and socio-demographic characteristics of the previous year (t-1). Thus, it was taken into account how the change in these characteristics will affect the resulting characteristics of the next year.

As an impact on the development of the city was also chosen such an economic indicator as the average annual number of employees in organizations, since, of course, the development of the city, both economically and in other aspects, depends on the volume of labor.

As the characteristics reflecting the development of the housing sector and the housing policy in the city, five indicators were selected, presented in Table 2. It should be noted that the first two indicators assess the work of the municipality, and the rest reflect the implementation of the housing policy. At the same time, all of them, one way or another, influence the economic development of the city.

As a control socio-demographic characteristics, such indicators were selected for the average age, population size, number of births and population growth due to migration. These indicators were also chosen not accidentally. According to the migration increase, it is possible to judge how attractive the city is for attracting primarily human resources. The number of births can also be used to judge the economic situation in the city, and also to assess the potential for further development, since those who were born now are labor resources in 20 years. The average age also reflects the labor potential in the city, as far as the whole of the old population.

Our conceptual model suggest estimation of three following models (1)-(3).

<i>SupProd =</i>	$\alpha_0 + \beta_1 \text{Salary} + \beta_2 \text{Invest} + \beta_3 \text{Employees_Number}$	(1)
	$+ \gamma_1 \text{Room_Area} + \gamma_2 \text{New_Buildings} + \gamma_3 \text{Families_Improved_LivCond} + \gamma_4 \text{Families_Improved_LivCond (needed)} + \gamma_5 \text{Emerg_Buildings}$	
	$+ \mu_1 \text{Aver_age} + \mu_2 \text{Population} + \mu_3 \text{Numb_Birth} + \mu_4 \text{Migration} + \varepsilon$	

<i>Invest =</i>	$\alpha_0 + \beta_1 \text{SupProd} + \beta_2 \text{Salary} + \beta_3 \text{Employees_Number}$	(2)
	$+ \gamma_1 \text{Room_Area} + \gamma_2 \text{New_Buildings} + \gamma_3 \text{Families_Improved_LivCond} + \gamma_4 \text{Families_Improved_LivCond (needed)} + \gamma_5 \text{Emerg_Buildings}$	
	$+ \mu_1 \text{Aver_age} + \mu_2 \text{Population} + \mu_3 \text{Numb_Birth} + \mu_4 \text{Migration} + \varepsilon$	

$Salary =$	$\alpha_0 + \beta_1 SupProd + \beta_2 Invest + \beta_3 Employees_Number$	(3)
	$+ \gamma_1 Room_Area + \gamma_2 New_Buildings + \gamma_3 Families_Improved_LivCond + \gamma_4 Families_Improved_LivCond (needed) + \gamma_5 Emerg_Buildings$	
	$+ \mu_1 Aver_age + \mu_2 Population + \mu_3 Numb_Birth + \mu_4 Migration + \varepsilon$	

Coefficients were estimated by ordinary least squares (OLS).

Data Collection

Data were collected reflecting the development of the 50 largest cities in Russia (except cities of federal significance Moscow, St. Petersburg and Sevastopol). For this purpose, the database "Economics of Russian Cities" was used (Multistat – Multifunctional statistical portal), the database of indicators of municipalities, as well as data posted on official websites of cities and regions.

It should be noted that the data was planned to be reviewed and analyzed for the entire period presented from 1970 to 2016. But the period under review had to be reduced to 20 years - from 1997 to 2016, as for the earlier period not all selected indicators had statistics. Also, due to the lack of the required annual number of observations in the period under review, some indicators were excluded, such as the size of the average household, the number of apartments per 1000 population (3-4 observations in the period under review).

For the purposes of further estimation indicators were transformed to variables on the following scheme (Table 1).

Table 1

Indicators characterizing the development of cities

No	Variable	Indicator
Economics:		
1	workers	Average number of employees in organizations, thousand people
2	wage	Average monthly salary, rub
3	supplied_products	The volume of the shipped goods of own production, the executed works and services by own forces (further - rate of growth of volume of the shipped goods), million rubles
4	invest	Investments in fixed assets, million rubles
Housing:		
5	area_room	The total area of living quarters, an average per capita, m2 per person.
6	new_flat	Commissioning of residential buildings, apartments in them and the total area of apartments due to all sources of financing, thousand m2
7	families_improved_room	Number of families who received living quarters and improved housing conditions in the reporting year, families

No	Variable	Indicator
8	families_improved_to_need_room	Number of families who received living quarters and improved living conditions in% of those registered,%
9	wreck_room	Share of the total area of residential premises in dilapidated and emergency residential buildings from the total area of living quarters
Socio-demographic:		
10	age	Average age, years
11	population	Population, thousand people
12	born	Number of births, people
13	migration	Population growth due to migration, people.

Thus, data reflecting the development of the 50 largest cities in Russia were collected in their own database and converted into dynamic panel data.

Data Analysis

For further analysis, the collected database of panel data on housing and socio-economic characteristics, reflecting the development of the largest cities for the period from 1997 to 2016. This database was analyzed using the Stata program.

First of all, a correlation analysis was carried out, which consists in revealing closely interrelated characteristics, namely, the influence of housing and socio-demographic characteristics on economic ones. Correlation coefficients are calculated in the process of correlation analysis. It is by their values that it will be determined which indicators should be left and which ones should be excluded from further analysis. At the same time, the time lag was taken into account, that is, the resulting economic characteristics of the current year (t) were also taken into account as the average monthly wage and the volume of goods shipped from own production, works performed and services provided on their own. They were compared by the remaining housing, economic and socio-demographic characteristics of the previous year (t-1). It should be noted that the coefficients were taken into account, according to which there is even a moderate correlation (> 0.3) between the resulting and the remaining indicators. The Pearson correlation matrix is presented in Table 2.

The results of the analysis are presented in Tables 3-5.

When considering the results of the regression analysis of the relationship between the average monthly wage (Table 3), we can conclude that the model was statistically significant, as the coefficient of determination $R = 0.3984$. This means that the calculated model parameters only 39.84% explain the relationship between the parameters studied. Also about the statistical significance of the model is the value of the F-criterion of Fisher, which turned out to be more tabular.

Table 2

Matrix of correlations of development indicators of the largest cities (time lag of 1 year)

Variables	wage	supplied_products	invest	families_improved_to_need_room1	families_improved_room1	area_room1	new_flat1	age1	workers1	population1	wreck_room1	born1	migration1	wage1	supplied_products1	invest1
wage	1															
supplied_products	0,3985	1														
invest	0,4429	0,4093	1													
families_improved_to_need_room1	0,0271	0,0107	-0,0122	1												
families_improved_room1	-0,2770	-0,0297	0,0075	0,6827	1											
area_room1	0,5331	0,2383	0,3668	-0,0054	-0,2251	1										
new_flat1	0,4139	0,3505	0,6818	0,0317	0,0388	0,4770	1									
age1	0,1363	0,1414	0,2731	-0,0910	-0,2071	0,7055	0,3100	1								
workers1	-0,1473	0,3908	0,3254	0,0125	0,3218	-0,0527	0,3844	0,1486	1							
population1	-0,0159	0,4657	0,4385	0,0013	0,2492	0,0412	0,5669	0,2100	0,9134	1						
wreck_room1	-0,0910	-0,1492	-0,0324	0,0539	0,0567	-0,2453	-0,0153	0,2419	-0,0558	-0,0269	1					
born1	0,3121	0,5695	0,5866	0,0331	0,1216	0,2108	0,7356	0,1747	0,6995	0,8725	0,0238	1				
migration1	0,3682	0,1811	0,4973	0,0560	0,0688	0,4268	0,6296	0,2602	0,2106	0,3193	-0,1148	0,4754	1			
wage1	0,9779	0,3804	0,4232	0,0267	-0,2517	0,5437	0,4231	0,1253	-0,1495	-0,0157	-0,0957	0,3206	0,3933	1		
supplied_products1	0,4040	0,9472	0,3934	0,049	-0,0241	0,2466	0,3567	0,1339	0,3852	0,4539	-0,1574	0,5641	0,2054	0,4088	1	
invest1	0,4447	0,3981	0,9115	-0,0193	-0,0040	0,3927	0,7000	0,2654	0,3161	0,4300	-0,0405	0,5982	0,5368	0,4541	0,4083	1

Table 3

The results of the regression analysis of the relationship between the average monthly salary and the housing and socio-economic characteristics of the development of the largest cities (the time lag is 1 year)

Linear regression	Number of obs =	950
	F(5, 49) =	27.34
	Prob > F =	0.0000
	R-squared =	0.3984
	Root MSE =	1297.2

(Std. Err. adjusted for 50 clusters in city)

wage	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
supplied_products1	.0208073	.0134732	1.54	0.129	-.0062681 .0478827
invest1	.0576229	.0377134	1.53	0.133	-.0181651 .1334109
area_room1	212.5747	44.11873	4.82	0.000	123.9148 301.2346
born1	-.0300066	.0774553	-0.39	0.700	-.1856588 .1256456
migration1	.0367445	.0236095	1.56	0.126	-.0107006 .0841897
_cons	-1726.785	1025.36	-1.68	0.099	-3787.324 333.7533

Table 4

Results regression analysis of the relationship of the volume of shipped goods from housing and socio-economic characteristics of the development of largest cities (time lag 1 year)

Linear regression	Number of obs =	950
	F(5, 49) =	18.52
	Prob > F =	0.0000
	R-squared =	0.4134
	Root MSE =	16010

(Std. Err. adjusted for 50 clusters in city)

supplied_p~s	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
wage1	3.976856	.8528319	4.66	0.000	2.263026 5.690686
invest1	.3916451	.3677553	1.06	0.292	-.3473868 1.130677
new_flat1	-23.16784	8.554939	-2.71	0.009	-40.35963 -5.976047
workers1	31.04086	20.12368	1.54	0.129	-9.399184 71.48091
born1	2.840326	1.106292	2.57	0.013	.6171496 5.063502
_cons	-11445.13	4061.23	-2.82	0.007	-19606.48 -3283.785

When considering the results of the regression analysis of the relationship between the volume of shipped goods (Table 4), we can conclude that the model was also statistically significant, as the coefficient of determination $R = 0.4134$. This means that the calculated parameters of the model only 41.34% explain the relationship between the parameters studied. Also about the statistical significance of the model is the value of the F-criterion of Fisher, which turned out to be more than tabular.

Table 5

Results regression analysis of the relationship of investment in fixed assets from housing and socio-economic characteristics of the development of major cities (time lag 1 year)

Linear regression	Number of obs = 950					
	F(6, 49) = 34.84					
	Prob > F = 0.0000					
	R-squared = 0.4978					
	Root MSE = 3885.3					
(Std. Err. adjusted for 50 clusters in city)						
invest	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
supplied_products1	.0242826	.0177125	1.37	0.177	-.011312	.0598771
wage1	.5666809	.2153466	2.63	0.011	.1339257	.9994361
new_flat1	9.176182	3.757616	2.44	0.018	1.62497	16.72739
workers1	5.740817	2.456089	2.34	0.024	.805121	10.67651
born1	.0494108	.2088053	0.24	0.814	-.3701991	.4690208
migration1	.1121185	.0562679	1.99	0.052	-.0009561	.2251931
_cons	-2185.118	464.8276	-4.70	0.000	-3119.224	-1251.012

Considering the results of the regression analysis of the relationship between investments in fixed capital (Table 5), it can be concluded that the model was also statistically significant, as the coefficient of determination $R = 0.4978$. This means that the calculated parameters of the model only 49.78% explain the relationship between the parameters studied. Also about the statistical significance of the model is the value of the F-criterion of Fisher, which turned out to be more than tabular.

Findings and conclusions

Thus, the analysis of the factors determining the dynamics of economic development in the largest cities of Russia made it possible to conclude that the level of incomes of the city's residents is undoubtedly influenced by the successful development of the main spheres of the city's economy and the intensity of investment (including in housing construction). At the same

time, one of the factors of the city's prosperous development is the size of the apartments in which its residents live. If the total area of residential premises in the city increases by an average per inhabitant per 1 m² per person, this will entail an increase in the average monthly wage by 212.5 rubles in one year and by 213.8 rubles in two years. The success of economic development is also reflected in the fact that in a city where more wealthy citizens live, it attracts more new workers coming from other cities. At the same time, according to the results of our study, the increase in the number of births has a negative impact on the average monthly salary, although not so significantly. If 100 people are born in the city, this reduces the average monthly salary by 3 rubles in a year. This may be due to the fact that the birth of a child's income in the course of 3 years falls sharply.

The second model shows that, without doubt, in a city with a more developed economy, higher average wages of residents, more directly working citizens, and it receives a more intensive flow of investment. In addition, but the results of our study, the introduction of housing reduces the total production in the city. If 1000 m² of housing are put into operation in the city, then the volume of shipped goods is reduced by 23 million rubles in one year and by 27 million rubles in two years.

The reverse effect of the volume of housing is imposed on the amount of investment attracted to the city. So, according to the results of the calculations, with the introduction of an additional square meter in the current year, increases the amount of investments in the city in the next year by 9 thousand rubles, and two years later by almost 11 thousand rubles. This influence is due not only to investments in the construction industry itself, but also related industries (the construction materials industry, the consumer goods and services market, durable goods, repair services, etc.). Also, the third model indicates that if the birth rate in the city increases, it attracts new workers from other territories, the average wage increases and production increases, then in a year and two years it will lead to an increase in investments.

It should be emphasized that the revealed relationship between housing and economic characteristics is not high, which does not negate its importance for the development of the city. It should be noted and the limitations of the analysis, which can be attributed to the fact that:

1. The sample of 50 cities is rather limited, with a larger sample, perhaps the results would be somewhat different;
2. we considered the time lag of 1 and 2 years; perhaps it makes sense to consider the impact of the housing sector on the economy of the city in 3-5 years.

These constraints can also be considered prospects for further analysis in this topic.

It should also be noted that according to the results of the analysis, the contribution to the economic development of the city of such indicators as the number of families who received living quarters and improved living conditions in the reporting year and the share of the total area of living quarters in dilapidated and emergency residential buildings from the total area of residential premises was insignificant .

Based on the results of the analysis of the array of statistical data, we confirmed the validity of the development of the housing sector in the city, since this really has some influence on the economic development of the city.

Based on the results of the analysis of the array of statistical data, we confirmed the validity of the development of the housing sector in the city, since this really has some influence on the economic development of the city. So, firstly, it is necessary to support housing construction, as this raises the level of incomes of the city's population, birth rate and attracts migrants.

At the same time, the contribution of the housing sector to the growth of the city's economy is exaggerated, as according to the results of our analysis, the commissioning of new housing can even lead to a decrease in the volume of shipped goods in the city's economy.

Nevertheless, the development of the housing construction industry has a positive impact on attracting investment to the city, which can be explained by the multiplicative influence of this industry on adjacent to it.

These findings should be implemented in urban development strategies and spatial development plans.

When developing a city strategy, the results of the analysis can be applied in evaluating activities aimed at increasing the volume of residential construction and the expected results from this.

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