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# THE STATE OF INVESTMENT IN SOCIAL INFRASTRUCTURE IN UKRAINE

Conditions of investment into social infrastructure of Ukraine are analysed. Inadequate state of social facilities, slow modernization and accumulation of obsolete and outdated assets reduce the effectiveness of the social sector and cannot support the provision of quality timely services to the population. The main tendencies and characteristics of social infrastructure investment in Ukraine from 2001–2013 are outlined. The role of the state investment in the development of education, health, housing, culture and sport activity, trade, hotels and restaurants is investigated; the dynamics of commissioning of new social facilities is reviewed; the structure of the investment as per source of funding is examined. The data for the empirical study is sourced from statistics on investments and fixed assets of the State Statistics Service of Ukraine.

Key words: social infrastructure, investments, investment process, fixed assets, capital assets, health and educational institutions.

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## СТАН ІНВЕСТИЦІЙНОГО ЗАБЕЗПЕЧЕННЯ СОЦІАЛЬНОЇ ІНФРАСТРУКТУРИ

Представлено результати дослідження інвестиційних умов розвитку соціальної інфраструктури. Сучасний стан об'єктів соціальної сфери, нагромадження морально і фізично застарілих фондів негативно впливають на ефективність діяльності соціальних галузей та не дозволяють якісно і своєчасно надавати послуги населенню за місцем проживання. Виявлено основні тенденції та особливості інвестиційної діяльності у галузях соціальної інфраструктури в Україні у 2001—2013 роках; досліджено роль державних інвестицій у розвитку освіти, охорони здоров'я, житлового будівництва у сфері культури та спорту, діяльності готелів та ресторанів; динаміку обсягів уведення в дію соціальних об'єктів; визначено особливості структури інвестицій за джерелами фінансування. Емпіричну основу дослідження склали матеріали зі статистики інвестицій та основних засобів Державної служби статистики України.

**Ключові слова:** соціальна інфраструктура, інвестиції, інвестиційний процес, основні засоби, соціальна сфера, охорона здоров'я, заклади освіти.

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## СОСТОЯНИЕ ИНВЕСТИЦИОННОГО ОБЕСПЕЧЕНИЯ СОЦИАЛЬНОЙ ИНФРАСТРУКТУРЫ

Представлены результаты исследования инвестиционных условий развития социальной инфраструктуры. Современное состояние объектов социальной сферы, накопление морально и физически устаревших фондов отрицательно влияют на эффективность деятельности социальных отраслей и не позволяют качественно и своевременно оказывать услуги населению по месту жительства. Выявлены основные тенденции и особенности инвестиционной деятельности в отраслях социальной инфраструктуры в Украине в 2001—2013 годах; исследована роль государственных инвестиций в развитии образования, здравоохранения, жилищного строительства, в сфере культуры и спорта, деятельности гостиниц и ресторанов; динамика объемов ввода в действие социальных объектов; определены особенности структуры инвестиций по источникам финансирования. Эмпирическую основу исследования составили материалы по статистике инвестиций и основных средств Государственной службы статистики Украины.

**Ключевые слова:** социальная инфраструктура, инвестиции, инвестиционный процесс, основные средства, социальная сфера, здравоохранение, учреждения образования.

**Introduction.** The degree of social and economic progress in society, quality of life and meeting population's needs in social services are largely determined by the status of social infrastructure, accessibility and quality of services provided on this resource base. The construction of the Social Welfare State was proclaimed in Ukraine, and hence it is necessary to modernize education, health care, and culture. This may only be possible through the growth in social infrastructure investments.

Destructive economic and social processes resulted in the decay of the social infrastructure and despite a number of initiated and implemented reforms, the financing of social needs on a residual basis still remains. Slow modernization and accumulation of obsolete and outdated assets reduce the effectiveness of the social sector and cannot support the provision

of quality timely services to the population. The current situation in social infrastructure investment is caused by the lack of financial, material and technical resources and the absence of an effective mechanism for the formation and distribution of public funds. Additional investment funds should be raised to create conditions for the steady development of social infrastructure. The study of the causes of social infrastructure degradation is required to reveal the terms of investment in social infrastructure.

Recent research and publications. Scientific studies on social infrastructure investment conditions highlights general issues of social sphere functioning and its specific aspects. E. Libanova and O. Makarova analyze the problems of social investment in terms of human development [1]. V. Novikov researches the issue of financial support of social sphere in the context of budget policy improvement and development of non-budget investment forms of social infrastructure [2, 3]. The innovation and investment processes in the social domain and the problems of budgeting for social standards are investigated by N. Deeva [3, 4]. Modelling of influence of intergovernmental transfers on social infrastructure financing was suggested by V. Semenov [5]. L. Logacheva explores the possibilities of diversification of investment resources in social infrastructure [6]. The application of public-private partnerships for the social investment in Ukraine and abroad is studied by I. Zapatrina [7]. B. Akitoby, R. Hemming, G. Schwartz examines trends in public investment and possibilities of investment in social infrastructure through public-private partnerships [8]. A. Kirilenko and B. Malynyak consider budget investments in social infrastructure as an effective tool of state regulation of social and economic development and redistribution [9]. N. Vynnychenko analyses the investment of social services through local development budgets [10].

However, the critical state of social infrastructure requires more research on causes of insufficient funding and a detailed study of the state, features and trends of social sphere investment for the development of effective measures to attract investment resources.

This article aims to determine trends and features of social infrastructure investment in Ukraine from 2001–2013.

**Results of research.** Each component of social infrastructure (health care, education, public services and public utilities, culture and art, physical education and sports, trade and catering, etc.) has its own economic and organizational specifics, different jurisdictions and individual financial system support. Therefore, investment conditions of each social infrastructure branches have their own characteristics.

The analysis of investment in social infrastructure should start with macroeconomic-level indicators. The most common data characterisation of the investment process is through the volumes of investments and their share in GDP (Table 1). Investments in capital assets in Ukraine's economy up to 2008 had a constant growth trend. The growth of investments in the economy in general, including investments into social infrastructure was uneven and ranged from 5 % to 56 % to the previous year. These trends indicate the absence of balanced development strategy for social infrastructure. In 2009, due to the financial and economic crisis in the country, all major macroeconomic investment indicators fell sharply. In 2010–2012 the amounts of fixed capital investment in the economy and social infrastructure increased but their share in GDP did not reach the levels of 2007–2008.

Total investment in social infrastructure from all sources up to 2008 increased steadily and in 2009 decreased by 43 % owing to the general financial and economic crisis in the country (Table 2). In 2010–2011 the investments significantly increased moreover the investments into certain branches of social infrastructure (education, public service, culture and sports, hotels and restaurants) exceeded their levels in 2008. Investments in culture and sport more than doubled: from 3.32 bln UAH in 2010 to 6.8 bln UAH in 2011, which can be

Table 1. The main macroeconomic indicators of the investment process from 1996–2013 (in current prices, billion UAH)

Indicator	1996	1998	2000	2001	2002	2003	2004	2002	2006	2007	2008	2009	2010	2011	2012	2013
GDP	81.5	102.6	102.6 173.0 204.2	204.2	225.8	264.2	346.2	346.2 441.5 544.2	544.2	720.7	948.1	913.3	1094.6	1094.6 1316.6	1408.9	1505.5
Investments in capital assets	12.6	14.0	23.6	32.6	37.1	51.0	75.7	93.1	125.3	188.5	188.5 233.1	151.8 150.7	150.7	209.1	285.1*	257.1*
including: Investments in ca-																
pital assets of social infrastructure	3.9	4.0	5.9	7.5	9.1	13.1	19.5	25.1	37.6	59.0	74.7	43	52.8	29	76.8*	73.8*
The share of Investments in capital assets in GDP, %	15.4	13.6	13.7	16.0	16.4	19.3	21.9	21.1	23.0	26.2	24.6	16.6	13.8	15.8	20.2	17.1
The share of investment in capital assets of social infrastruct-																
ure in GDP, %	4.8	3.9	3.4	3.6	4.0	5.0	5.6	5.7	6.9	8.2	7.9	4.7	4.8	5.1	5.5	4.9

Source: Statistical Yearbook of Ukraine. 2011. State Statistics Service of Ukraine. K. LLC «August Trade», 2012. 559 p. P. 30, 204; Statistical Yearbook of Ukraine. 2012. State Statistics Service of Ukraine. K., 2013. 552 p. P. 30, 193; author's calculations based on Statistical Bulletin Capital investment in Ukraine. 2012. K., 2013. P. 21–25. \* Investments in tangible assets.

Table 2. Indices of investments in fixed capital (investment) in social infrastructure, 2001-2012, % of the previous year

Economic activity	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Education	138.9	130.8	109.4	127.2	75.7	114.7	117.8	110.3	6.95	112.3	113.0	0.69
Primary education												
	* *	* *	142.1	113.2	144.9	158.9	92.8	137.6	38.6	151.2	162.5	* *
Secondary education	* *	*	132.2	149.2	5.09	141.3	130.8	102.1	47.7	133.3	116.2	**
Higher education	*	*	9.68	112.7	83.2	06	103.9	117.2	70.1	97.5	94.5	* *
Other activities in education	*	*	*	* *	**	*	228.5	118.1	137.3	34.8	100.5	* *
Health and social work	116.1	112	171.6	122.6	73.3	124.3	117.5	113	49.3	129.2	108.3	124.9
Human health activities	*	*	173.8	119.6	0.0	123.4	118.7	113.6	49.4	131.2	108.2	**
Other community, social and												
personal service activities;												
culture and sport activity	136.4	104.1	153.3	136.5	69.1	138.3	125.9	102.5	81.6	98.0	172.0	0.09
Recreational, cultural and												
sports activities	192	84.5	191.3	137.8	71	150.2	125.8	106.7	82.5	81.0	178.5	67.7
Housing construction	101	111.6	125.8	117.9	108.9	127.5	131.4	88.1	45.6	145.4	87.3	117.1
Wholesale and retail trade;												
repair of motor vehicles,												
motorcycles and personal and												
household goods	154	151.3	154.8	142.2	118	134.9	130.8	109	51.7	74.8	128.2	114.6
Hotels and restaurants	123.4	90.2	143.8	132.9	113.7	83.1	145.3	96.1	72.1	105.1	139.3	118.8
Hotels	138.2	113.9	233.2	114.9	8.701	68.4	168.1	92.1	84.8	100.7	156.9	140.6

<sup>\*</sup> Capital assets investments.

Source: Statistical Yearbook of Ukraine. 2007. State Statistics Service of Ukraine. K. LLC «August Trade», 2008. 572 p. P. 204; Statistical Yearbook of Ukraine. 2012. State Statistics Service of Ukraine. K., 2013. 552 p. P. 30, 193; author's calculations based on Statistical Bulletin Capital investment in Ukraine. 2012. K., 2013. 552 p. P. 201, 206.

<sup>\*\*</sup> No data

attributed to the preparation for the 2012 UEFA European Championship. In 2011 investments in socially important areas, such as housing, health and social care were not renewed. The State Statistics Service stopped publishing data on investing in capital assets in 2012, instead publishing the data on capital investment statistics as per international standards. Currently, these indicators are incomparable with previous data and significantly differ from the results published in previous years. Therefore, the figures for 2012 are shown for the information only.

During eleven years the fluctuations of indices of capital assets investments in social infrastructure did not exhibit clearly defined trends. This situation discloses the ill-defined strategy of social infrastructure development in the country and its regions and dictates the necessity to develop sound strategies to improve the quality and accessibility of social services.

An important bottleneck is in limited investment size and insufficiency of investment sources. In Ukraine investment activities are carried out by the following sources: investments from citizens, non-governmental enterprises, economic associations, unions, civic and religious organizations, and other entities, based on collective ownership; public investments made by state authorities from the national budget, off-budget funds and loan funds; state-owned enterprises and institutions from their own and loan funds; foreign investments by foreign citizens, legal persons and states; joint investments by individuals and legal entities of Ukraine and foreign states.

A detailed analysis of the investment sources is difficult to make due to the lack of published data on fixed assets investments by local budgets, enterprises and organizations funds and other resources by social infrastructure sectors.

The dynamics of investments financed by the state budget shows that the share of the state budget in social infrastructure investments during 2001–2011 fluctuated slightly and increased to 6.4 % in 2011.

Until 2008, investments in capital assets of social infrastructure grew from all sources of funding (including the state budget). Total amount and share of the state budget investments in education, health care and social assistance, housing, hotels and restaurants increased. At the same time, the share of the state budget investment in culture and sport, municipal and individual services declined.

In 2009, investment in capital assets of social infrastructure from all sources decreased significantly: in education by 43 % and in health and housing — by more than 50 %. The amount and share of investments from the state budget in 2009 had a similar trend. Thus, investment in education declined 1.7 times from 525.9 million UAH in 2008 to 311.7 million UAH in 2009. Especially notable is the reduction in investing in higher education —  $2.8 \, \text{times}$ ; investments in health care decreased  $2.5 \, \text{times}$  from 1000 million to 401.9 million UAH.

The level of investment activity in hotels and restaurants dropped 1.5 times — from 29.6 million in 2008 to 19.8 million in 2009. Investment in housing was reduced by more than twice from 658 million UAH in 2008 to 271.3 million UAH in 2009. The sharp decline of investments from the state budget was due to lack of budget resources during the financial crisis.

The increase of state budget investments was observed only in primary education (from 17.8 million UAH in 2008 to 20.9 million UAH in 2009); and in culture and sports, which nearly doubled, from 483 million UAH in 2008 to 901 million UAH in 2009. This was due to the sharp growth of investments in sport by almost 7 times, from 117mln UAH in 2008 to 787 million UAH in 2009. This trend continued and investment in sports reached 1.58 billion UAH in 2010 (68.6 % of the total investments in sport) and 1.14 billion UAH in 2011 (23.3 % of the total investments in sport). This is due to expenditures by the state in preparation to host the 2012 UEFA European Championship in Ukraine.

The trends of 2010 were uncertain: investment in primary and secondary education increased slightly, while investment in higher education increased 3.5 times to 282 million

and was 47.2 % of total investment in education. Such large fluctuations in the amount of investment demonstrate the weaknesses of the strategy of educational sector development.

In 2010, investments in health care and social assistance, hotels and restaurants, residential construction increased, but did not exceed those in 2008. In 2011, public investment in social infrastructure and its share in total investment reached the maximum values for the previous 10 years (excluding housing investment and cultural activities and sport).

In 2013–2014 investment activity, including investing in social infrastructure, decreased significantly due to the urgency for strengthening Ukraine's national security and social and economic issues related to internal migration of large populations consequently to the military conflict in eastern Ukraine and alleged annexation of Crimea. The total amount of capital investments decreased by 25 % compared to 2013, the amount of investment in education was reduced by 35 %; the investments in health and social protection declined by 60%; in art, culture and sport – by 70 %; in residential construction – by 17 %. There was a significant reduction in capital investment from the state budget: in health care – by 90 %, in education – by 53 %, in the arts, sport and culture – by 80 %. Investments increased only in temporary accommodation by 30 % compared to 2013 due to the increase of capital investment into operation of hotels and other temporary accommodation [12].

Uncertain trends of social infrastructure investment demonstrate the necessity of developing long term investment strategy to ensure equal access for all citizens to quality social services, especially given the challenges and threats that Ukraine is facing.

From 2001 the dynamics of commissioning social infrastructure facilities (educational institutions, health, culture and arts facilities) had a negative or neutral trend, excluding dwellings that grew steadily until 2009 (Table 3, Fig. 1).

The number of officially endorsed secondary schools, kindergartens, hospitals and outpatient clinics varied from year to year and decreased significantly in 2009 (Fig. 1). The commissioning of new pupil places in secondary schools fell by 51 %; the commissioning outpatient clinics was reduced by 44 %; the number of hospital beds declined by 10 %. In 2011–2013 the number of commissioning of social infrastructure facilities grew to pre-crisis levels.

Table 3. Commissioning social infrastructure facilities

Social infrastruc- ture facilities	2001	2005	2008	2009	2010	2011	2013	2009 to 2008, %	2013 to 2008, %
Residential buildings, thousand square m	5939	7816	10495.6	6399.6	9339.3	9410.0	11217	61.0	106.8
Secondary schoo- ls, pupil places	14800	10586	12381	6064	7116	14648	5600	49.0	45.2
Pre-schools, places	530	558	2310	599	550	3120	3900	25.9	168.8
Hospitals, beds	453	853	1098	1007	1051	787	900	91.7	81.9
Outpatient clinics, visits per shift	3076	4012	4876	2736	5271	6440.0	3800	56.1	78.0
Clubs and houses of culture, places	1100	900	720	700	1250	_	_	97.2	_

Note: "-" no data

Source: Statistical Yearbook of Ukraine. 2012. State Statistics Service of Ukraine. K., 2013. 552 p. P. 207.

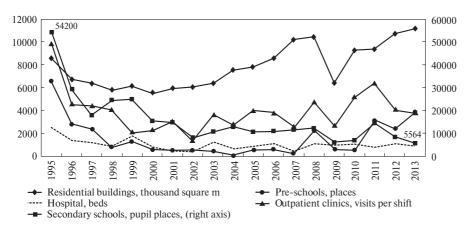


Fig. 1. Commissioning social infrastructure facilities

Source: Statistical Yearbook of Ukraine for 2013. Kyiv. State Statistics Service of Ukraine, 2014.

From 2001 the commissioning of pre-schools was extra low, excluding the years of 2008, 2011 and 2013 (Table 3, Fig. 1). From 2001–2010, the average number of commissioning pupil's places was 650, which is insufficient in terms of the high workload in existing facilities (in 2010 the number of children exceeded the number of pupil places in pre-school by 8.4 thousand (68 % of total)). In 2011–2013 significantly more pupil places were commissioned in pre-schools and reached 3900, but the number of pre-schools, where the number of children exceeds the number of seats, increased to 9.5 thousand (68.5 % of total seats needed).

The number of commissioned dwellings grew steadily until 2009, when it decreased 1.6 times as a consequence of the financial crisis in Ukraine. In rural areas the reduction was 1.5 times the previous level whereas in urban areas it was 2.3 times. The decline was significantly influenced by the decrease of commissioned housing erected by individual developers 2.5 times [12]. From 2010–2012 the number of commissioned dwellings grew and in 2012 exceeded the 2008 level.

The structure of capital investment in housing construction by funding sources changed significantly from 2010–2012. (Table 4). Until 2009, private investors constructed their own apartments and houses and contributed about 60 % of the total amount. Up to 10 % of investments were made through housing mortgage loans from banks and other loans, 11-14 % were funds of enterprises and organizations. The funds from public budget did not exceed 5 % of housing investment. In 2010, the amount and share of contribution by private investors (into own households) increased substantially and continued grow further.

The maintenance of existing housing and keeping it in good condition is important in view of housing challenges in Ukraine. In 2013 the total area of the completely renovated dwelling was 815 thousand sq. m. (including 807 in urban areas and 8 in rural areas); the costs constituted 282.4 million UAH (278.2 million UAH in urban areas and 4.2 million UAH in rural areas). The cost of capital renovations and repairs was 346.6 UAH per sq. m.

Today, the State budget is almost the only source for housing capital renovation/repair. However, the limited funding resulted in the reduction of the works and deterioration of real estate technical conditions, i.e. accelerated aging and service outflow. In 2013 almost 5 million sq. m. of housing (109.5 thousand residents [14]) with high decay rate (dilapidated and wrecking) were in operation. Because of dilapidation and wrecking in 2013 significant area of housing was written-off (almost 335 thousand sq. m.).

Table 4. Capital assets investment in housing construction by funding sources, 2006-2011

	2006	90	2007	07	2008	80	2009	60	2010	01	2011	11
Funding sources	million UAH	%										
Total	18581.0	100.0	30343.0	100.0	35533.0	100.0	18052.0	100.0	28000.0	100.0	28413.2	100.0
From them:												
State budget funds	624.8	3.4	603.3	2.0	658.0	1.9	271.3	1.5	191.1	0.7	374.1	1.3
Local budget funds	280.3	1.5	340.7	1.1	383.3	1.1	268.0	1.5	136.4	0.5	183.7	9.0
Own funds of enterprises and organizations	2118.4	11.4	3783.3	12.5	5272.2	14.8	2576.9	14.3	2148.4	7.7	2504.0	8.8
Housing mortgages loans from banks and other loans	1346.7	7.2	2970.2	9.8	3156.2	8.9	1929.1	10.7	1240.0	4.4	1727.5	6.1
The household funds for construction of their own apartments	7019.0	37.8	9879.0	32.6	9495.0	26.7	4796.0	26.6	4653.1	16.6	4469.9	15.7
The household funds for construction of their own												
houses	5110.0	27.5	8549.0	28.2	11589.0	32.6	5502.0	30.5	16176.2	57.8	15102.9	53.2
Other funds	2081.8	11.2	4217.5	13.9	4979.3	14.0	2708.7	15.0	3454.8	12.3	4051.2	14.3

Source: Capital investment in Ukraine. 2011. Statistical Bulletin. K.: State Statistics Committee, 2012. 44 p. P. 26–30; Capital investment in Ukraine for 2012. Statistical Bulletin. K.: State Statistics Committee, 2013. P. 21–25.

In the context of social infrastructure one general challenge is the increasing load on the social infrastructure due to growing number of consumers. The unsatisfactory state of financial and technical support for social sphere is complicated by the excessive load. As a result of the conflict in eastern Ukraine and Crimea, more than 1 million of Ukrainians were forced to migrate; half of them are children, disabled and the elderly. Particularly, pressure on social infrastructure increased in Donetsk, Kharkiv, Lugansk, Kiev, Zaporozhye and Dnepropetrovsk regions which received 82 % of internally displaced persons. Both government and the population are facing critical problems related to health care provision (including provision of free drugs), provision of preschool and school education; provision of shelter, etc.

This situation requires development of a strategy to overcome the crisis. With the limited state financial resources, it is necessary to attract private and foreign investors. The organizational and legal mechanisms of interaction between government, business and social institutions should be developed in order to attract corporate investment in the social sphere. These may include public-private partnership in large infrastructure projects; multi-channel financing mechanisms; use the opportunities of financial leasing and credit mechanisms, etc.

Social infrastructure is important for the progress of society and the State is responsible for supporting and growing it. Thus, due to the State's limited financial resources, it is necessary to update and improve the investment policy to increase cost efficiency and meet the needs of society. State and local government budgets do not have sufficient resources to invest in the social sector. A perspective solution to the investment problem in housing, culture and tourism, education and health care, is to combine public and private sources for investment programs and projects.

Domestic and international experts emphasize the necessity to attract private capital for both developed and transition economies [6, 7, 8, 13]. Attracting long-term private capital is required to ensure the reliable and uninterrupted operation of infrastructure and provision of sufficient public services.

**Conclusions.** The article outlines the main trends and characteristics of investment in social infrastructure in Ukraine in the period of 2001–2013. The dynamics of capital asset investment in social infrastructure had no clear tendencies. Decreased investments into the social sector, including investments from the state budget suggest absence of a consistent strategy both in developing and supporting social infrastructure and improvement of the quality and accessibility of social services. The main trends are:

The role of public investment in education and health has increased significantly over the period of 2001–2012 and accounts for almost 30 % of total investments. In housing construction, trade, hotels and restaurants, the state budget investments were insignificant.

The numbers of social facilities being commissioned varied greatly but tended to decrease. The number of commissioned pre-schools was relatively low considering the overload at existing facilities. The numbers of commissioned housing was increasing constantly but varied significantly per region and type of area (e.g. rural/urban).

The specifics of the investment structure by source of construction financing is as follows: the share of investment by private funds of residents in construction of stand-alone housing has increased; the share of investment by private funds of residents, housing mortgage loans from banks, and other loans for construction of private apartments decreased; the share of investment by the state and local budgets and enterprises and organizations decreased.

Accumulation outdated and physically decayed assets, reduction of capital assets growth rate adversely affect the effectiveness of social infrastructure sectors. Consequently, modernization is critical for social reforms, which requires considerable investments.

Considering limited state budget, a mechanism of stimulation of investment in social infrastructure should be developed which uses regional features and attracts more private investment. Social infrastructure has an important role in accelerating socio-economic development, in the formation of labour potential and improving the population's standard of living.

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