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Nataliia Nazukova¹

INVESTING IN EARLY CHILDHOOD DEVELOPMENT IN THE CONTEXT OF REFORMING EDUCATIONAL FUNDING IN UKRAINE

The world community agrees on the conceptualizing nature of early childhood development. This was formulated in the Incheon Declaration and in the 2030 Agenda for Sustainable Development. The most significant part of the early development concept is the pre-primary education, which covers early childhood educational development and pre-school programs. Society's investments in early childhood development are highly profitable as resources spent are much less than the return from them: according to some estimates, \$1 spent on pre-primary education can gain from \$4 to \$17 of social return.

At the same time, financial resources, that countries can spent on education, are limited, especially after the latest financial crisis. In Ukraine, the situation is worsened by the domestic socio-economic crisis of 2013–2014. The article aims at grounding the ways of pre-primary education financing in Ukraine in the context of the implementation of early childhood development concept. The author assesses financial support for childcare, early childhood education and pre-school education programs in different countries. The comparative analysis showed a low level of financing and a negative trend in Ukraine, in particular compared with the neighboring EU-countries such as Poland, Slovakia, Hungary and Romania. This indicates a low financial viability of providing quality pre-school education services in Ukraine. If the trend remains, Ukraine will lag behind the average indicators of social returns from pre-school education, especially in comparison with developed economies.

The author substantiates the expediency of applying in Ukraine the measures aimed at supporting licensed private pre-school education institutions, in particular, simplifying the procedures for starting pre-school educational activities, state participation in financing licensed private pre-school institutions and applying innovative schemes for financing pre-school education based on public-private partnership.

Key words: public funding of education, early childhood development investment, productive public spending, public support for families with children

JEL: E620, H520, I220, I280

Formulating the problem and analysis of literature. Today's society face the challenge of building favorable grounds for sustainable and inclusive growth and ensuring public finance sustainability against the backdrop of socio-economic, demographic and macro-financial problems. These have encouraged research concerning growth-friendly and budget-neutral public expenditure.

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In this context, among the pressing issues now is investing in early childhood development and education as the factor for economic growth. Investments in early childhood development and education are highly profitable because the efforts and resources that society invests are insignificant compared to economic and social outcomes, that have long-lasting and integrating effect. Researches on economic and social returns² on investments in education show that 1 USD spent on pre-school education yields, according to different sources, from \$ 4 to \$ 17 US of socio-economic outcomes [1-3].

Investing in early childhood development and education provides the basis for long-term economic growth, as it increases (with a lag) labor productivity, reduces social and health spending, and contributes to income equality. The scientific basis for this conclusion concern the impact of educational and developmental activities of the youngest children on their further success, in particular learning abilities: processes initiated by early developmental programs considerably improve children's cognitive abilities, which maintain throughout their lives [4-6].

On the one hand, the conclusion was taken into account when developing the UNECE 2030 Agenda for Sustainable Development [7] and the Incheon Declaration "Education 2030" [8], according to which, by 2030, countries must provide at least one year of free and compulsory high quality pre-school education. This confirms the fact that the world community recognizes the conceptual nature of investing in early childhood development and education, integrating it into the process of strategic planning for global development.

On the other hand, budget constraints imposed by national authorities to overcome negative macro-financial consequences of the global financial and economic crisis had given rise to the problem of productive public investments' funding, in particular investments in education.

Therefore, taking into account the above, the need for scientific consideration of preschool education funding issues in the context of implementing the concept of investing in early childhood development and education as a basis for long-term economic growth has arisen.

Although even A. Marshall admitted that, to achieve individual success, not only education is important, but also the family as an environment for the young children rearing [9, p. 173-174], yet the first studies on the socio-economic implications of implementing the concept of investing in early childhood development and education were carried out only at the end of the XX century.

Thus, in 1985, R. McKee and co-authors published the results of the assessment of the economic and social consequences of the implementation of the "Head Start" project in the United States, which is still functioning and means the inclusion of preschoolers from low-income families into early development programs [10].

² Social rate of return on education includes, on the one hand, full cost of investments in education, that is, government spending on education, including education subsidies, and personal costs, including foregone earnings of those who invest in their own education. On the other hand, social rate of return includes economic and social/non-monetary benefits from education, including reduction of social expenditures and increase of tax revenues in the future.

More recent studies on this project were performed by J. Ludwig and P. Phillips [11]. In 1995, St. Pierre and co-authors published a report on the economic consequences of implementation of the "Two-Generation Program" [12], which includes low-income families with children into parallel children-oriented and adult-oriented educational activities aimed at achieving high cognitive abilities of children and acquiring economic literacy by their parents.

As budget constraints hardened, research on funding issues within the concept of investing in early childhood development intensified. Thus, the experience of individual OECD countries on financing early childhood development and education programs is presented in L. Gambaro et al. [13]. At the same time, given the considerable practical significance of the studies on financial issues of children's early development and education concept implementation, in particular in proving specific governments' spending, it should be said that scientific advancement of these issues is insufficient. Therefore, the **purpose of this article** is in justification of the approaches of early childhood development, childcare and preschool education programs' funding (in the context of the concept for investing in early childhood development) in Ukraine, based on the compilation of developed countries' experience in the corresponding programs' funding.

The main part. Investing in early childhood development involves funding (public direct funding and indirect support, international donor and private funding) of pre-school education, child health, early warning and anti-poverty measures for young children, informational support for the early childhood development concept both within the family and in public and private institutions (kindergartens, children's clubs, family centers, etc.), as well as the attraction of as many young children as possible to the above mentioned programs in order to endow them with age-appropriate physiological and cognitive characteristics, as well as personal qualities, that are required for further successful life, in particular for training on other educational levels.

The most important component of early childhood investment is pre-school education (ISCED 0 [14] and NAE – National Accounts of Education (in Ukraine) [15], age from 0 to 6-7 years), which includes childcare and early childhood development programs (ISCED 01) and pre-school programs (ISCED 02). The duration of pre-school education varies from country to country. OECD countries, that provide predominantly only pre-school programs, are: Turkey, the Czech Republic, Latvia, Slovakia, Hungary, the USA, Switzerland, Poland, Korea, Italy, Japan, Ireland, Portugal, France, Belgium, the Netherlands, and Luxembourg. Childcare and early childhood development programs as well as pre-school programs – both are implemented in the following OECD countries: Norway, Australia, Sweden, Iceland, Finland, New Zealand, Germany, Austria, the United Kingdom, Slovenia, Chile, Spain and Israel.

Pre-school education in 2014 accounted for 16.9 and 17.7% of total education expenditure in Sweden and Chile, respectively; 14.3% - in Luxembourg; 13.6% - in the Czech Republic; in Poland, Slovenia and Israel - about 12%. The smallest share of pre-school education in general education expenditure among OECD countries

is recorded in Ireland (2%), Japan (2.8%) and Australia (2.9%). In Ukraine, in 2014, the share of pre-school education in general education expenditure was 16.3%, which exceeds the respective indicators of 21 OECD countries (Fig. 1).

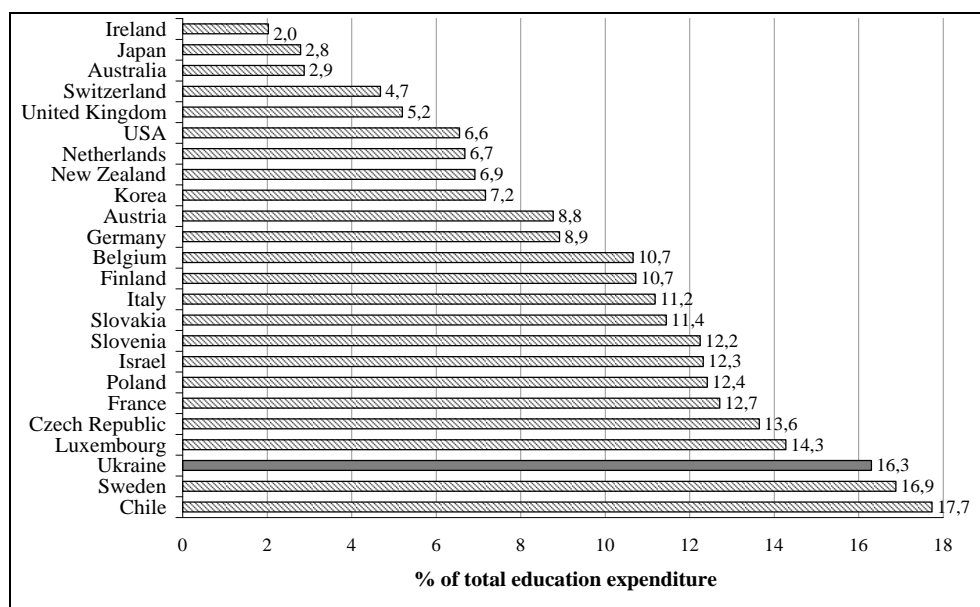


Fig. 1. Share of pre-school education in general education expenditure in some OECD countries and in Ukraine in 2014

Source: [15, 16].

The share of public funds in pre-school education financing in Ukraine is 0.95% of GDP, which exceeds the corresponding indicators of 24 OECD countries (Fig. 2).

In OECD countries, like in Ukraine, pre-school education is funded primarily by general government. A smaller role in funding is played by *non-educational private sector*³ and households. Thus, in Ukraine in 2015, households funded pre-school education in the amount of 0.0004% of GDP, and private non-educational organizations - 0.000002% of GDP. At the same time, in OECD countries, households and private non-educational organizations make up a larger share of pre-school education funding.

Thus, households in the UK, Australia, New Zealand, Portugal, Spain, Chile and Israel financed pre-school education in about 0.2% of GDP, while in France, Italy, Poland, Austria, Turkey, Japan and Finland - 0.1 % of GDP. The largest shares of non-educational private sector in pre-school education funding are recorded in Slovenia, Israel and Norway - about 0.3% of GDP; and in the UK, Australia, New Zealand, Portugal, Spain, Germany, Estonia, Iceland and Chile - 0.2% of GDP.

The structure of sources for education financing is largely dependent on the prevailing model of national social policy. Thus, in 2015, in countries with a neo-

³ In Ukrainian national accounts of education, this type of funding is reflected as funding by "private companies".

liberal model of social policy (including the United Kingdom, Australia, and the United States), the share of public funds in general educational expenditure was 65-70%, in countries with a conservative-corporatist model (which include Germany, France, Austria, and Belgium) - 89-95%, in countries with Scandinavian model (first of all in Sweden) - 95-97%, and in those having the Mediterranean model (eg. Italy, Spain, and Portugal) - 80-87%.

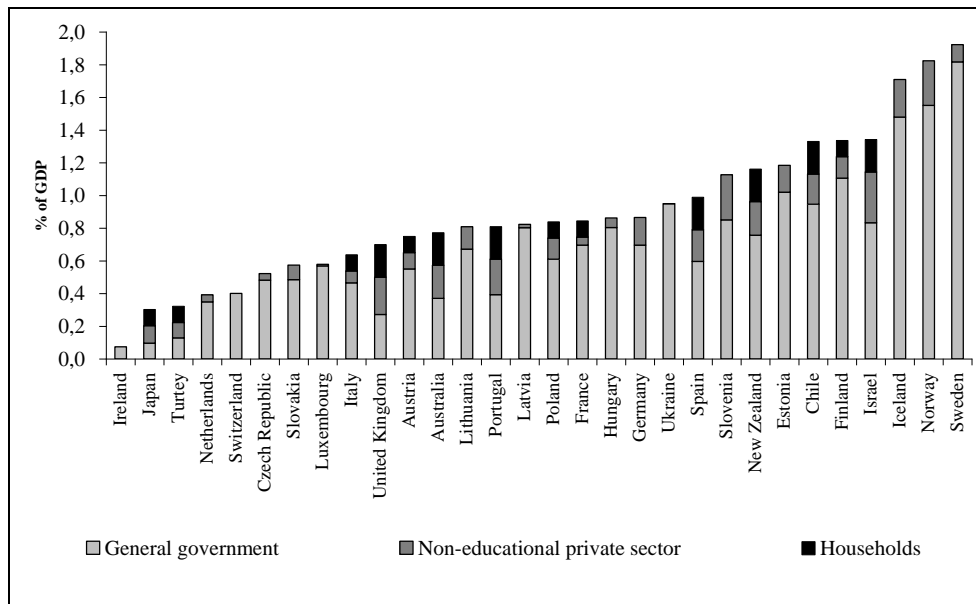


Fig. 2. Funds of budget, private non-educational organizations and households in pre-school education financing as share of GDP in some OECD countries and in Ukraine in 2015

Source: [15], [17].

Total amount of expenditure on pre-school education in OECD countries is on average 0.8% of GDP, which is below the recommended by UNESCO level (1% of GDP for all countries) [18, p. 2]. At the same time, a country's achievement of the recommended level of expenditure on pre-school education at 1% of GDP does not mean high quality of educational services. A more informative indicator of financial possibilities for providing high-quality pre-school education is annual expenditure per student. In Ukraine, which almost reaches the UNESCO's recommended level and spend 0.95% of GDP on pre-school education, the indicator of annual expenditure per student in pre-school educational institutions is rather low. According to the World Bank, in 2016 it was 716,2 USD⁴, which is significantly lower than in Ukraine' neighboring EU member states (Table 1).

⁴ US dollars are 2015 constant. According to the World Bank methodology, to calculate price indicators in constant US dollars, the first step is to define the price index by dividing each year of the constant local price series by its value in the selected year. In our case it is 2015 (thus, 2015 equals one). The second step is to multiply each year's index result by the corresponding year (2015) current U.S. dollar price value.

Table 1

Indicators of government expenditure per student on pre-school educational level⁵ in Ukraine and selected EU countries

Country	Measurement unit	2000	2005	2013	2015	2016
Czech Republic	USD	800,3	1804,9	3135,3	2615,9	n/a
	<i>constant USD (2015)</i>	1633,3	2018,2	2586,1	2615,9	n/a
Hungary	USD	828,7	2617,7	2613,8	3042,2	n/a
	<i>constant USD (2015)</i>	1601,1	2615,5	2204,8	3042,2	n/a
Poland	USD	1001,0	1980,6	2401,0	2404,2	n/a
	<i>constant USD (2015)</i>	1630,3	2108,8	2038,4	2404,2	n/a
Romania	USD	n/a	487,4	1003,0	1055,2	n/a
	<i>constant USD (2015)</i>	n/a	663,9	869,2	1055,2	n/a
Slovakia	USD	727,6	1559,9	2767,3	2650,6	n/a
	<i>constant USD (2015)</i>	1197,7	1525,2	2304,3	2650,6	n/a
Ukraine	USD	137,5	575,6	1634,9	n/a	717,3
	<i>constant USD (2015)</i>	295,3	649,2	962,9	n/a	716,2

Note: n/a – data not available.

Source: [16].

In 2013, due to the introduction of severe fiscal measures in response to the global financial and economic crisis, government expenditure on pre-school education was reduced in Hungary and Poland, as compared to 2005. But in the Czech Republic, Romania, Slovakia and Ukraine, they increased, despite the general tendency to reduce public expenditure. In 2015, EU countries increased the amount of government expenditure per student on pre-school educational level. However, it should be noted that among all OECD countries, the lowest levels of government expenditure per student on pre-school educational level in 2015 were exactly in the countries under consideration, such as Poland, Slovakia, and the Czech Republic [16]. Unlike the neighboring EU countries, in Ukraine in the period from 2013 to 2016, government expenditure per student in pre-school educational institutions decreased from 962.9 in 2013 to 716.2 USD in 2015. Thus, we can conclude that the global financial and economic crisis of 2008 did not lead to any significant reduction in the amount of government expenditure per student on pre-school educational level in neither neighboring EU member states nor Ukraine. This indicates the key role of pre-school education financing for long-term economic growth. However, the 2013-2014 socio-economic crisis in Ukraine and the associated worsening of macro-financial indicators led to a 25% reduction of per-student funding at pre-school educational level, if calculated on the basis of 2015 USD exchange rate index (and more than two-fold if calculated on the basis of actual USD exchange rates, that is, from 1,634.9 USD in 2013 to 717.3 USD in 2016).

⁵ The indicator is calculated as the difference between local, regional and central government expenditures (current and capital) on pre-school education and international educational transfers received by the government divided by the number of pre-school students.

The analysis of pre-school education funding in terms of economic and functional classification of government expenditure indicates that from 2011 to 2015 the share of capital expenditure (which establishes the quality of physical infrastructure of pre-school education and includes the purchase of equipment and durable goods, land and intangible assets, capital construction, major repairs, reconstruction and restoration) was insignificant compared to current expenditure. According to the calculations, in 2011 in Ukraine the share of capital expenditure in total expenditure on pre-school education was 3.2%, in 2013 - 3.4%, in 2014 - 2.9%, and in 2015 - 5.0%⁶. In 2016, the share of capital expenditure in preschool education expenditure rose to 7.3% due to additional financing of reconstruction and renovation of pre-school facilities, in particular thermo-modernization and thermo-sanitation of buildings, in the amount of 90.5 million UAH, as well as due to increased funding of the major repairs of premises: from 622.7 UAH million in 2015 to 870.6 million UAH in 2016. However, in 2016 the funding of capital construction at pre-school educational level decreased almost four-fold: from 22.4 million UAH in 2015 to 6.3 million UAH in 2016. Accordingly, the share of capital construction in capital expenditure at pre-school educational level also reduced - from 2.5 to 0.4%. At the same time, kindergartens in Ukraine as of 2017 were filled on 112% on average. The most overcrowded kindergartens were in urban areas of Lviv region - 147%, Volyn region - 146%, Chernivtsi region - 144%, Odesa region - 143%, and Ternopil region - 142% [19]. This indicates a lack of pre-school facilities, especially in towns. That is, in spite of positive changes in the economic-functional characteristics of pre-school education funding in 2016, the problem of capital expenditure' underinvestment in Ukraine remains.

Under these realities, it is advisable to consider alternative schemes for pre-school education funding, namely the involvement of non-governmental organizations, private companies and investors into the construction of new pre-school facilities. Innovative schemes of pre-school education funding are used around the globe, in particular those based on public-private partnership: corporate social responsibility, social bonds, etc. (Table 2).

According to the State Statistics Service, in Ukraine only 1.3% of pre-school education institutions (that is 189) are private, 39 of which are located in Kyiv and another 35 - in Kyiv oblast [19, p. 46]. However, according to the portal sadik.ua, which posts information on pre-school education providers, there are 180 private pre-school organizations for early development and care and pre-school education in Kyiv alone.

Most of these organizations actually work as full time kindergartens, without having appropriate license or status of pre-school educational institution. This is explained, on the one hand, by the difficulty of starting a business in the field of pre-school education in Ukraine (as evidenced by the Platform for effective regulation of the Ministry of Economic Development and Trade of Ukraine [20]), and, on the other, by the legal right for individual entrepreneurs to provide pre-school

⁶ Calculations are based on the Ministry of Finance of Ukraine data.



Table 2
Alternative schemes for preschool education funding

Name	Contents	Participants	Examples
Corporate social responsibility	Companies finance early childhood development programs by building new children's facilities or placing them in their own premises.	Companies; corporations; government organizations in partnership with companies; non-governmental organizations in partnership with companies	Sri Lanka: Hemas Holdings company has built 34 Piyawara kindergartens all over the country. Japan: Joint-stock companies promote early development programs, inviting children's organizations to work in their premises. Bhutan: Druk Green Power Corp., Royal Bhutan Police and Dungsam Cement corporation are investing in the construction of care and education centers for children located next to their parents' workplaces; remuneration for the centers' personnel is borne by the companies, while the costs of building the centers is borne by UNICEF and the Ministry of Education.
Social obligations/ Social bonds	Public institutions conclude contracts with a private intermediary to provide funding for the solution of the social problem. Service providers receive funding from investors and implement their own programs. Government reimburses initial investment and returns on investment.	Government organizations, private mediators; providers of social services	USA (Utah Pre-School Program): Goldman Sachs Group, Inc., a leading international investment banking, securities and investment management company, cooperated with a social service provider and private investor to fund early childhood development programs through a social bond model. The partnership funded up to 7 mln. USD, providing a highly effective pre-school program for 3,500 children from social risk groups.
Conventional money transfers	Cash is provided to households on condition that they fulfill a certain condition (for example, they send children to school).	Governmental organizations; households	Mexico: In 1998, the program was implemented to reduce poverty and involved over 5 million families. Fixed cash transfers equal to 15.5 USD per month were provided to improve the nutrition of children between the ages of 4 months and 4 years.
Government – employer partnership	The government provides subsidies to encourage job creation in childcare centers, which are organized by companies with a significant proportion of working parents.	Ministry of Employment; employers (public/private)	Korea: Organizations with more than 500 employees or more than 300 women employees are required to organize children's centers. The government uses employers' financial resources and premises, but at the same time provides subsidies for initial organization, wages and operating expenses.

Source: author's compilation based on [18].

educational services using a simplified system of taxation (by opening a corresponding code of Nomenclature of Economic Activities, *Ukr. KBEД*), which allows reduce significantly the tax burden, simplify the business starting procedure and reduce responsibility.

To solve the problem of capital expenditures' underinvestment in Ukraine's pre-school education, it's advisable to provide the licensed private educational institutions with state support, which includes, firstly, simplifying the procedures for gaining licenses for the provision of pre-school education services, and revising the number of required permits and time to complete the procedures, and secondly, introducing public sector' share in financing the licensed private pre-school institutions.

Private educational institutions with a public share in funding are functioning in the EU and OECD countries. In the statistical and analytical materials of UNESCO, European Commission and OECD, private pre-school institutions are divided into: government dependent private educational institutions - those that receive more than 50% of their funding from government sources and independent private educational institutions, which receive less than 50% from public sources [21] (Table 3).

Table 3

**EU countries with private pre-school institutions with different levels
of government funding, 2015**

Countries in which private pre-school institutions are dependent on public funding (share of public funding over 50%)	Countries in which private pre-school institutions are independent of public funding (share of public funding less than 50%)	Countries with dependent and independent private pre-school institutions
Sweden, Finland, Belgium, Germany, Slovakia, Czech Republic	Netherlands, Luxembourg, Lithuania, Latvia, Italy, Ireland	France, Portugal, United Kingdom

Source: author's compilation based on [17].

In Germany public funds allocation towards private pre-school institutions exceeds public funds allocation towards public pre-school institutions 1.6 times. Thus, in 2015, out of total 17,181.5 million euro spent on early childhood development programs and pre-school education, private pre-school institutions received 10,553.2 million euro. It should be noted that 9,162.7 million euro out of total 10,553.2 million received by private pre-school institutions (that is, 86.8%), were exclusively sent to the early childhood development programs (Table 4).

Among countries, where private pre-school institutions are independent of public funding, Ireland is standing out. In 2015, out of 195.1 million euro total funding of pre-school education programs for children under 3, independent private pre-school institutions accounted for 186.8 million euro and only 8.3 million euro were allocated in public pre-school institutions. Insignificant, in comparison with other EU countries, funding of pre-school education in Ireland is explained by the fact that attending kindergarten at public expense is possible only during one year and

only after a child reaches 3 years and 2 months. Moreover, government covers the costs of a child's visiting of kindergarten only during three hours a day, five days a week [22].

Table 4

Distribution of public funding between public and private pre-school educational institutions in the EU countries in 2015

Country	Measurement unit	Total funding	including:		
			Public institutions	Government dependent private educational institutions	Independent private educational institutions
Czech Republic	mln. Czech Corunas	23980.8	23372.2	608.6	-
	%	100	97.5	2.5	-
Germany	mln. euro	17181.5	6628.4	10553.2	-
	%	100	38.6	61.4	-
Slovakia	mln. Slovak Corunas	452.9	418.8	34.1	-
	%	100	92.5	7.5	-
Ireland	mln. euro	195.1	8.3	-	186.8
	%	100	4.3	-	95.7
Latvia	mln. Lats	200.9	178.3	-	22.5
	%	100	88.8	-	11.2
Lithuania	mln. Lits	245.1	233.5	-	11.6
	%	100	95.3	-	4.7
France	mln. euro	16345.2	15264.8	1020.5	59.9
	%	100	93.4	6.2	0.4
Portugal	mln. euro	951.3	466.3	289.3	195.7
	%	100	49.0	30.4	20.6
United Kingdom	mln. pounds	8008.6	3921.8	3750.7	336.0
	%	100	49.0	46.8	4.2

Source: author's compilation based on [17].

Interdisciplinary studies, that prove positive socio-economic impact of early childhood development in the family, provide the basis for including public spending on families with children to quantitative parameters of pre-school education funding.

According to the OECD statistical methodology, public assistance for families includes cash benefits and non-cash assistance (services and tax-breaks for families). Cash benefits for families with children include: payments for children; maternity, childbirth and childcare payments, and other cash benefits. Non-cash assistance for families with children includes: pre-school education provision and other types of assistance for families with children. The greatest cash benefits for families with children as a share of GDP in 2015 were in Luxembourg (2.51%), the

United Kingdom (2.25%), Estonia (2.01%), Austria (1.95%), Belgium (1.79%), Hungary (1.73%), Ireland (1.64%), France (1.51%) and the Czech Republic (1.5%) (Table 5).

Table 5

**Cash benefits and non-cash assistance for families with children
in OECD countries in 2015, % of GDP**

Country	Cash benefits for families with children	Non-cash assistance for families with children, total	incl. provision of pre-school education
Greece	0,93	0,10	0,08
Turkey	0,20	0,19	0,15
Canada	1,32	0,24	0,24
Ireland	1,64	0,57	0,32
Portugal	0,74	0,46	0,38
Japan	0,74	0,57	0,44
Switzerland	1,22	0,50	0,45
Czech Republic	1,50	0,54	0,48
Slovenia	1,27	0,51	0,49
Spain	0,51	0,72	0,50
Slovakia	1,45	0,53	0,50
Austria	1,95	0,69	0,51
Chile	0,76	0,95	0,55
Italy	1,29	0,66	0,56
Mexico	0,44	0,59	0,56
Netherlands	0,86	0,60	0,60
Germany	1,09	1,13	0,60
United Kingdom	2,25	1,22	0,65
OECD	1,20	0,86	0,65
Hungary	1,73	1,24	0,73
Luxemburg	2,51	0,86	0,74
Latvia	1,28	0,85	0,76
Estonia	2,01	0,81	0,76
Israel	0,82	1,07	0,79
Lithuania	0,80	0,95	0,79
Belgium	1,79	1,04	0,82
New Zealand	1,45	1,14	0,94
Korea	0,18	1,02	0,95
Finland	1,41	1,70	1,13
Denmark	1,36	2,08	1,23
France	1,51	1,43	1,32
Norway	1,36	1,90	1,33

Source: author's compilation based on [23, 24].

As mentioned above, the prevailing share of the cost of attending pre-school educational institutions by children under 3 in Ireland is covered by households, so attending the corresponding institutions ("approved childcare providers") by children under 3 completely falls on households. That's why Ireland has an extensive

system of cash payments for families with children, which accounted for 1.64% of GDP in 2015. In 2019 Ireland raised the cash payments for families with children within the so called "Affordable childcare program", in order to improve families' financial ability to access to all paid child care services (Table 6).

Table 6

Variants of cash payments for families with children in Ireland before and after 2019 within "Affordable childcare program"

Family category by income	Probable gross income, <i>euro</i>	Weekly payments for families in accordance with the scheme in force before 2019, <i>euro</i>	Weekly payments for families in accordance with the scheme introduced in 2019, <i>euro</i>
Single mother/father with a net annual income of 26,000 euro, with one child of 2 years old, who requires 40 hours of weekly care	26500	148	175
Family with net annual income of 30,000 euro, with two children from 1 to 2.5 years, who require 25 hours of weekly care	34500	187	220
Family with net annual income of 35,000 euro, with two children aged 1 to 2.5 years, who require 25 hours of weekly care	41000	149	192
Family with net annual income of 47,500 euro, with two children: one aged 2 years (requiring 40 hours of weekly care) and one aged 5 years (requiring 17 hours of weekly care)	64000	52	128
Family with net annual income of 53,000 euro, with two children: one aged 2 years (requiring 40 hours of weekly care) and one aged 5 years (requiring 17 hours of weekly care). The family pays a 10 percent pension contribution	87000	20 (universal subsidy)	93
Family with net annual income of 60,000 euro, with three children: one aged 2 years (requiring 40 hours of weekly care), one aged 5 years (requiring 17 hours of weekly care) and one aged 7 years (requiring 17 hours of weekly care). The family pays a 10 percent pension contribution	102000	20 (universal subsidy)	92

Source: [25, p. 12].

It is expected that additional public investments will reduce parents' expenses on early childhood education and care programs, which in turn will increase the financial resources of service providers, simultaneously improving the quality of services, and will create a financial basis for the gradual transition to the use of skilled workforce in the sphere of early education and child care. Unlike most OECD countries, in Ukraine, total cash benefits for families with children are insignificant. In addition, in 2017, compared to 2010, cash benefits for families with children in Ukraine decreased more than three times: from 0.034% of GDP in 2010 to 0.01% of GDP in 2017 (Table 7). *Table 7*

Cash benefits for families with children in Ukraine in 2010 and in 2017

Year	Unit	Pregnancy and childbirth benefits	Single pay on childbirth	Benefits for child care until 3 years old	Benefits for tutored children	Childcare benefits for single parents	Single payment for child's adoption	Total
2010	mln. Hrn.	18254.7	10173.9	4636.7	1015.8	2146.9	26.2	36254.2
	% GDP	0.0169	0.0094	0.0043	0.0009	0.0020	0.00002	0.034
2017	mln. Hrn.	353.3	21770.7	31.0	1820.6	5749.5	58.2	29783.3
	% GDP	0.0001	0.007	0.00001	0.001	0.002	0.00002	0.010

Source: author's calculation based on [26, p. 100; 27, p. 104].

At the same time, it should be noted that in 2019 two programs of direct public assistance for families with children and one program of indirect support in the form of tax incentives were introduced in Ukraine. Indirect support for families with children who are involved in commercial early childhood development programs (including those provided in public educational institutions) is provided via tax deductions on appropriate expenses. According to paragraph 166.3.3 of the Tax Code of Ukraine [28], the list of tax deductions from income tax base amended with sums paid by the taxpayer to the providers of pre-school education services.

Within the implementation of the pilot project on social protection of families with children and promotion of the responsible parenting, since September 1, 2018, a single material aid - "baby-box" - is provided at the birth of a child. In addition, as it is planned, within the program of "municipal nanny", since January 1, 2019 part of families' expenses on individual child care services for children under 6 can be compensated in the amount of subsistence level⁷. To date, it's impossible to as-

⁷ Financing of "municipal nanny" service should be made in accordance with the Procedure of local budget expenditures funding for the implementation of the measures of state programs of social protection at the expense of subventions from the general budget approved by the Decree of the Cabinet of Ministers of Ukraine of March 4, 2002 No. 256



sess the effectiveness of these programs, since reports on their funding are not available yet.

The performance of the public assistance for families with children determines children's involvement in early childhood development programs. According to UNICEF, pre-school education programs are attended by 68% of children from the 20 per cent quintile of the richest families in Ukraine, and only by 30% of children from the 20 per cent quintile of the poorest families [29]. Therefore, it is necessary for Ukraine to implement a social policy aimed at increasing the well-being of families with children, in particular by increasing the level of respective public support.

The concept of investing in early childhood development and education includes a comprehensive approach to financing a wide range of activities, including childcare and education, health care and combating early-age poverty, informational support for families with children, and others. An example of an integrated approach to implementing the concept of investing in early childhood development and education is the unprecedented interagency strategic program "*First 5*" [30], launched in Ireland in 2019. The program identifies a "roadmap" for changes in the area of early childhood for the next 10 years. The ten-year plan for implementing this strategy, in addition to developing a new model for early childhood education and care programs' funding, includes four other guidelines:

- 1) extending the parents' rights to combining work and childcare. The Departments of Justice and Equality and Employment Affairs and Social Protection have been assigned responsible for this guideline. The new scheme of childcare provides extended entitlements to paid leave for both fathers and mothers: for each parent, the leave's period will increase by 2 weeks (prospectively - by 7 weeks). Spending more time with parents would raise the effectiveness of early childhood education programs, taking into account the personality-formative nature of the first year of child's life;

- 2) providing informational support to parents raising children; coordination of this guideline has been assigned to the newly created division of children education within the Department of Children and Youth Affairs. Parents are provided with accessible and high-quality information and guidance on healthy behaviour in favour of early school-based learning and building and maintaining trustful relationships between parents and children. This goal is aimed at strengthening families, based on new national model of child-raising support, and contains high-quality programs available to all families;

- 3) providing parents' support in children's health protection. Measures introduced in Ireland aimed at healthy adult behavior in relation to the children's physiological and mental health, including young children, as well as the expansion of the National Healthy Childhood Program, which provides for an increase in the staffing of children's health care;

- 4) adoption of measures necessary for early childhood poverty combat, including expanding families' opportunities for free and/or subsidized access to early childhood education and care programs, expansion of the "Warm Home" program

for families with children and introduction of children's nutrition schemes within the early education and childcare programs.

There is no single program for early childhood development in Ukraine, but some directions are been developing. Thus, the Poverty Reduction Strategy is currently in force, which defines the mechanisms for preventing poverty and the main tasks to solve this problem until 2020 [31], the National Early Intervention Platform [32] was introduced, the main guidelines and the State Program for the development of children from birth to three years old called "Zernyatko" were developed, which are widely used by families, communities and pre-school institutions that care for young children.

At the same time, elaboration of a comprehensive program for the early childhood in Ukraine, with inclusion of the above-mentioned directions, that are being implemented, would shape individual activities with proper framework, program-mity and comprehensiveness.

A single early childhood development program would be advisable both for monitoring the effectiveness of individual activities, and for assessing their compliance with the strategic Ukraine's development goals.

Conclusions and prospects for further research

Current researches suggest that investments in early childhood development and education yield social and economic outcomes that significantly exceed initial inputs. One of the most important components of early childhood investments is the funding of pre-school education. An inter-country comparative analysis of annual pre-school education funding per pupil, which shows the financial possibilities of providing high quality educational services, confirms Ukraine's significant lag behind neighboring EU member states.

Assessment of expenses on pre-school education for the period 2011-2016 in Ukraine in terms of the economic-functional classification indicates a lack of financial resources for the construction of pre-school facilities. In such circumstances, it is advisable to stimulate private capital investments in pre-school education. For this purpose, it's appropriate to simplify the procedures and shorten the time needed for the actual commencement of private pre-school educational institutions.

Furthermore, following EU' example, a justified share of current budget expenditure on pre-school education should be allocated to private pre-school educational institutions. Presence of public funds in private preschool education institutions' financing could reduce the overcrowding of public institutions, would be a form of state assistance for the private sector, working in socially valuable sphere, and would ensure the control of services' quality in private educational institutions.

As UNICEF concluded, the most important tool for increasing the number of children covered by early education and development programs is public cash assistance for families with children. However, the evaluation of cash assistance for families with children in Ukraine found very limited financial opportunities for



implementing the concept of investing in early childhood development and education, as compared to OECD countries. Against the backdrop of the trends towards increased funding for early childhood development and education programs in developed countries, the funding for the corresponding programs in Ukraine remains insignificant.

For the above reasons, prospective directions for further research include identifying the risks and benefits of public and private financing of education, as well as developing criteria of expediency and factors of the effectiveness of public funding of pre-school education in the context of raising the efficiency of public expenditures on pre-school education. Furthermore, implementation of the concept of investing in early childhood development and education is an instrument for building a buffer against negative economic effects of population ageing. Therefore the urgent issues here include the impact of changes in age-related educational expenditure on the indicators of public finance sustainability, as well as the assessment of fiscal space for educational sphere.

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ІНВЕСТИВАННЯ У РАННІЙ РОЗВИТОК ДІТЕЙ У КОНТЕКСТІ РЕФОРМУВАННЯ ФІНАНСУВАННЯ ОСВІТИ В УКРАЇНІ

Реалізація концепції інвестування у ранній розвиток дітей має на меті вирішення стратегічно важливих завдань: боротьби з бідністю, вирівнювання доходів, вирішення проблем демографічного старіння населення, забезпечення фінансової стійкості, стимулювання економічного зростання. Найвагомішим компонентом інвестування у ранній розвиток дітей є дошкільна освіта, що включає догляд за дітьми і програми раннього розвитку та дошкільну підготовку. На основі узагальнення досвіду розвинених країн щодо фінансування дошкільної освіти з'ясовано основні підходи до реалізації схем державного та приватного фінансування програм догляду за дітьми і раннього розвитку та дошкільної підготовки. Незважаючи на високий рівень державного фінансування дошкільної освіти в Україні у відсотковому вираженні до ВВП, показник фінансування на одного вихованця дошкільних закладів освіти є низьким. Проведений порівняльний аналіз фінансового забезпечення заходів по догляду за дітьми, програм раннього розвитку і дошкільної підготовки у різних країнах засвідчив спадну динаміку показників фінансування в Україні на тлі підвищення відповідних значень у сусідніх з Україною країнах – членах ЄС. Якщо тенденція збережеться – на Україну чекає відставання показників суспільної віддачі від дошкільної освіти, зокрема порівняно з іншими європейськими країнами. Автором обґрунтовано застосування в Україні заходів, спрямованих на підтримку ліцензованих приватних закладів дошкільної освіти: спрощення процедур започаткування освітньої діяльності, державну участь у фінансуванні ліцензованих закладів освіти та застосування інноваційних схем фінансування освіти на засадах державно-приватного партнерства. Спираючись на новітній досвід розвинених країн, зроблено висновок про доцільність розроблення єдиної програми розвитку сфери раннього дитинства в Україні.

Ключові слова: державне фінансування освіти, інвестиції у ранній розвиток і освіту дітей, продуктивні державні видатки, державна підтримка сімей з дітьми

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ИНВЕСТИРОВАНИЕ В РАННЕЕ РАЗВИТИЕ ДЕТЕЙ В КОНТЕКСТЕ РЕФОРМИРОВАНИЯ ФИНАНСИРОВАНИЯ ОБРАЗОВАНИЯ В УКРАИНЕ

Реализация концепции инвестирования в раннее развитие детей имеет целью решение стратегически важных задач: борьбы с бедностью, выравнивания доходов, уменьшения негативных последствий демографического старения населения, обеспечения фискальной устойчивости, стимулирования экономического роста. Наиболее весомым компонентом инвестирования в раннее развитие детей является дошкольное образование, которое включает уход за детьми, программы раннего развития и дошкольную подготовку. На основе обобщения опыта развитых стран относительно финансирования дошкольного образования сформулированы основные подходы к реализации схем государственного и частного финансирования программ ухода за детьми, раннего развития и дошкольной подготовки. Несмотря на высокий уровень государственного финансирования дошкольного образования в Украине в процентном выражении к ВВП, показатель финансирования на одного воспитанника дошкольных учебных заведений низкий. Проведенный сравнительный анализ финансового обеспечения мероприятий по уходу за детьми, программ раннего развития и дошкольной подготовки в разных странах продемонстрировал нисходящую динамику показателей финансирования в Украине на фоне повышения соответствующих значений в соседних с Украиной странах – членах ЕС. Если тенденция сохранится, Украина будет отставать по показателям общественной отдачи от дошкольного образования, в том числе по сравнению с другими европейскими странами. Автором обосновано применение в Украине мероприятий, направленных на поддержку лицензированных частных учреждений дошкольного образования, в частности упрощения процедур открытия указанного бизнеса, государственного участия в финансировании лицензированных частных учреждений дошкольного образования и применения инновационных схем финансирования дошкольного образования на основе государственно-частного партнерства. Опираясь на новый опыт развитых стран, сделан вывод о целесообразности разработки единой программы развития сферы раннего детства в Украине.

Ключевые слова: государственное финансирование образования, инвестиции в раннее развитие и образование детей, производительные государственные расходы, государственная поддержка семей с детьми