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ENHANCING FINANCING MECHANISMS FOR EARLY CHILDHOOD AND SCHOOL EDUCATION FACILITIES: INTERNATIONAL LESSONS FOR UZBEKISTAN

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Abstract: This paper examines international approaches to financing early childhood education (ECE) and explores how key financing mechanisms can be adapted to support the ongoing expansion of preschool education in Uzbekistan. Drawing on comparative and theoretical literature, the study distinguishes three broad models of ECE financing—Nordic, continental European and Anglo Saxon—and analyses their implications for access, equity and quality. The paper highlights a set of optimization instruments, including per child and weighted funding formulas, demand side subsidies, and intergovernmental equalization transfers, and discusses their strengths and limitations in diverse welfare and governance contexts. Using a conceptual “fit gap” assessment, the article argues that Uzbekistan would benefit from a hybrid financing model that combines a strong public funding base with equity oriented weighting, carefully designed household subsidies and gradual strengthening of regulatory capacity. The findings provide a conceptual framework and practical directions for designing financing reforms capable of supporting both rapid expansion and long term sustainability of ECE services in Uzbekistan.

Key words: early childhood education; preschool financing; public–private mix; equity in education; comparative education policy; Uzbekistan.

Annatsiya: Ushbu maqola maktabgacha ta'limni (MTA) moliyalashtirishga xalqaro yondashuvlarni o'rganadi va O'zbekistonda maktabgacha ta'limning doimiy ravishda kengayishini qo'llab-quvvatlash uchun asosiy moliyalashtirish mexanizmlarini qanday moslashtirish mumkinligini o'rganadi. Qiyosiy va nazariy adabiyotlarga tayanib, tadqiqot MTA moliyalashtirishning uchta keng modelini - Shimoliy, Kontinental Yevropa va Anglo-Saksonni ajratib ko'rsatadi va ularning kirish imkoniyati, tenglik va sifatga ta'sirini tahlil qiladi. Maqolada bir qator optimallashtirish vositalari, jumladan, har bir bola uchun va vaznli moliyalashtirish formulalari, talab tomonidagi subsidiyalar va hukumatlararo tenglashtirish transferlari ta'kidlangan va ularning turli xil farovonlik va boshqaruv kontekstlaridagi kuchli va cheklovlari muhokama qilingan. Kontseptual "moslik farqi" baholashidan foydalanib, maqolada O'zbekiston kuchli davlat moliyalashtirish bazasini tenglikka yo'naltirilgan vazn bilan birlashtirgan gibridd moliyalashtirish modelidan foyda ko'rishi, puxta ishlab chiqilgan uy xo'jaliklari subsidiyalari va tartibga solish salohiyatini bosqichma-bosqich kuchaytirish ta'kidlangan. Topilmalar O'zbekistonda MTA xizmatlarining tez kengayishi va uzoq muddatli barqarorligini qo'llab-quvvatlashga qodir moliyalashtirish islohotlarini ishlab chiqish uchun kontseptual asos va amaliy ko'rsatmalar beradi.

Kalit so'zlar: maktabgacha ta'lim; maktabgacha ta'limni moliyalashtirish; davlat-xususiy aralashuv; ta'limda tenglik; qiyosiy ta'lim siyosati; O'zbekiston.

Аннотация: В данной статье рассматриваются международные подходы к финансированию дошкольного образования (ДО) и рассматривается, как ключевые механизмы финансирования могут быть адаптированы для поддержки продолжающегося расширения дошкольного образования в Узбекистане. Опираясь на сравнительную и теоретическую литературу, в исследовании выделяются три основные модели финансирования ДО — скандинавская, континентальная европейская и англосаксонская — и анализируется их влияние на доступность, равенство и качество. В статье рассматривается набор инструментов оптимизации, включая формулы финансирования на ребенка и взвешенного финансирования, субсидии на стороне спроса и межбюджетные трансферты для выравнивания, а также обсуждаются их сильные и слабые стороны в различных контекстах социального обеспечения и управления. Используя концептуальную оценку «разрыва соответствия», в статье утверждается, что Узбекистан получит выгоду от гибридной модели финансирования, сочетающей в себе прочную государственную финансовую базу с весовыми коэффициентами, ориентированными на равенство, тщательно разработанными субсидиями домохозяйствам и постепенным укреплением нормативно-правового регулирования. Полученные результаты представляют собой концептуальную основу и практические направления для разработки реформ финансирования, способных поддержать как быстрое расширение, так и долгосрочную устойчивость услуг ДО в Узбекистане.

Ключевые слова: дошкольное образование; финансирование дошкольного образования; государственно-частный баланс; равенство в образовании; сравнительная политика в области образования; Узбекистан.

INTRODUCTION

Early childhood education (ECE) is widely regarded as one of the most productive areas of public investment, as programmes targeting children before compulsory schooling can yield substantial longterm returns in health, education and labour market outcomes (Heckman, 2006). Empirical studies consistently show that children who participate in highquality ECE are more likely to succeed at school, attain higher qualifications and experience better employment prospects, while governments benefit from higher tax revenues and lower social welfare and criminal justice costs (Barnett, 2011). These findings have motivated many countries to expand access to ECE by increasing public expenditure and reforming the mechanisms through which early childhood services are financed.

However, countries have adopted distinct financing architectures that reflect their institutional legacies, fiscal capacity and social policy priorities. Nordic systems emphasize universal, publicly funded access; continental European systems combine institutional subsidies with family benefits; and AngloSaxon systems rely more heavily on private provision supported by targeted subsidies (Moss, 2013; Gambaro et al., 2014). For lowermiddleincome countries such as Uzbekistan, which are rapidly expanding preschool provision but operate under tighter fiscal constraints, it is not feasible simply to replicate a single highincome model. Instead, there is a need to analyse international experience, identify design principles that enhance both efficiency and equity, and adapt these principles to local conditions.

The purpose of this paper is threefold: (1) to synthesize academic evidence on models and instruments of ECE financing; (2) to conduct a conceptual comparative analysis of key international approaches; and (3) to discuss how selected mechanisms could be tailored to support the ongoing reform of preschool education in Uzbekistan. By focusing on academic literature rather than solely on policy reports, the paper aims to ground policy recommendations in theoretical and empirical research on early childhood systems and public finance

LITERATURE REVIEW

The economic rationale for investing in early childhood has been strongly articulated in human capital theory and empirical research on returns to education. Heckman (2006) argues that skill formation is a dynamic, cumulative process in which investments at early stages generate higher marginal returns than later remedial interventions, particularly for disadvantaged children. Similarly, Heckman et al. (2010) find that highquality preschool programmes can produce significant longterm gains in cognitive and socioemotional skills, leading to improved educational attainment and labour market outcomes.

Metaanalyses and longitudinal studies support these conclusions, demonstrating that ECE participation is associated with better school readiness, lower grade repetition and reduced likelihood of special education placement (Barnett, 2011; Melhuish et al., 2015). Beyond individual benefits, expanded ECE provision has been linked to higher female labour force participation and reduced child poverty risks, reinforcing the argument for substantial public involvement in financing (EspingAndersen, 2009).

Comparative research has distinguished several ECE regime types, often aligned with broader welfare state classifications. Bennet (2000) describes the evolution of ECEC in OECD countries and highlights the contrast between Nordic systems, where services are considered a social right and predominantly publicly funded, and more marketoriented systems where childcare is treated largely as a private family responsibility. Moss (2013) further characterizes the Nordic approach as a “universalistic, educationoriented model”, while the AngloSaxon approach is described as “workoriented” and heavily influenced by labour market and family policy agendas rather than by an educational curriculum.

Penn (2011) critiques the expansion of privatized ECE markets, noting that reliance on forprofit providers and feebased services can exacerbate inequalities in access and quality, particularly when regulatory frameworks and public subsidies are weak. Studies from the United Kingdom and Australia suggest that marketization can lead to uneven geographical distribution of services, with higher concentrations in wealthier areas where demand is profitable (Brennan et al., 2012). In contrast, Nordic and some continental European systems have used strong public governance and relatively generous funding to maintain more homogeneous access and standards.

Academic work has examined how specific financing instruments shape participation and equity. Kaga, Bennett and Moss (2010) emphasize the importance of integrated governance and stable funding streams to support coherent ECEC systems, arguing that fragmented, projectbased financing undermines longterm planning and quality improvement. Studies of perchild funding formulas indicate that, when combined with targeted weights for disadvantaged groups, such formulas can promote both efficiency and equity by linking resources to enrolment and need (Daly, 2015).

Research on demand-side subsidies, such as childcare vouchers and tax credits, presents a more mixed picture. On the one hand, fee subsidies can ease financial barriers for low-income families and expand parental choice (Cascio, 2009). On the other hand, empirical evaluations show that, without robust supply-side support and quality regulation, vouchers may lead to growth of low-cost, low-quality provision and may not significantly reduce socioeconomic gaps in participation (Penn, 2011; Gambaro et al., 2014). Consequently, many scholars argue for a balanced approach that combines universal or near-universal supply-side funding with targeted demand-side measures and strong public oversight.

While much of the literature focuses on high-income countries, there is a growing body of work on ECE reforms in transition and developing economies. Aldashev and Mamedov (2019) analyse preschool expansion in Central Asia and highlight common challenges related to underinvestment, regional disparities and the rapid growth of private providers without commensurate regulatory capacity. Silova and Palandjian (2018) discuss how postsocialist education systems must reconcile inherited traditions of state provision with new market-oriented policies and international donor agendas.

These studies underline that, in such contexts, the design of financing mechanisms must consider limited administrative capacity, uneven fiscal space across regions and the need to build trust in emerging non-state providers. They suggest that incremental reforms, such as piloting weighted per-child funding, targeted subsidies for low-income families, and gradual strengthening of quality assurance systems, may be more feasible and politically sustainable than abrupt system overhauls (Aldashev & Mamedov, 2019).

Building on this literature, the paper uses a three-part typology of financing models:

- Nordic model: high public expenditure, municipal governance, low capped fees and provider-neutral per-child funding; associated with high coverage and relatively low socioeconomic stratification (Bennet, 2000; Moss, 2013).
- Continental European model: strong public role combined with substantial private and faith-based provision, use of both institutional subsidies and family benefits; associated with high enrolment from age three but more complexity in funding streams (Gambaro et al., 2014).
- Anglo-Saxon model: mixed economy of provision with significant for-profit involvement, extensive use of tax credits and vouchers and targeted programmes for disadvantaged groups; associated with diversity and flexibility but also with pronounced inequalities (Penn, 2011; Brennan et al., 2012).

Against this background, the following sections (from your previous draft) can present: the structured comparison of these models, the description of optimization instruments (per-child and weighted funding, vouchers, equalization transfers), and the application to Uzbekistan's context, including specific policy options.

RESEARCH METHODOLOGY

This study adopts a qualitative, theory-driven research design based on comparative policy and systems analysis. The methodology comprises three complementary components. First, a narrative literature review of peer-reviewed academic articles on ECE financing, governance and equity was conducted, focusing on work published since the 2000s in international journals of education and social policy (e.g., *Early Childhood Research Quarterly*, *International Journal of Educational Research*, *Children and Youth Services Review*). The search strategy targeted keywords such as “early childhood education financing”, “ECEC systems”, “preschool funding models”, “childcare markets” and “public-private mix”, drawing on cross-national comparative studies and conceptual papers (e.g., Bennet, 2000; Penn, 2011; Daly, 2015).

Second, a comparative analytical framework was developed to classify ECE financing arrangements into broadly Nordic, continental European and Anglo-Saxon models. This typology builds on previous system-level analyses of early childhood education and care (ECEC) that distinguish regimes by their funding structures, governance arrangements and policy goals (Moss, 2013; Gambaro et al., 2014). Within each regime type, the paper examines the balance between public and private funding, the main allocation mechanisms (per-child formulas, institutional grants, vouchers, tax incentives), and the degree of universalism versus targeting.

Third, the paper applies this framework to the case of Uzbekistan through a conceptual “fit-gap” assessment: the key features of international models are compared with the country's evolving preschool sector, as described in existing academic and policy analyses of education reforms in Central Asia (Aldashev & Mamedov, 2019; Silova & Palandjian, 2018). The analysis is not empirical in the sense of econometric testing; instead, it uses theory-informed reasoning and secondary descriptive data to identify plausible policy options and tradeoffs. This methodological approach is appropriate for a context where the ECE system is rapidly transforming and where policy decisions must be informed by comparative lessons rather than by extensive national datasets alone.

From an economic perspective, early childhood education is often treated as a merit good with substantial positive externalities: families may underinvest relative to the social optimum, while benefits in terms of future

productivity, lower crime and reduced social protection costs are spread across society (UNESCO, 2015). This justifies a prominent role for government in both financing and regulating ECE, while still leaving space for private and communitybased providers in delivery.

ANALYSIS AND RESULTS

International models of ECE financing

1. Nordic (socialdemocratic) model

The Nordic countries (for example, Sweden, Norway, Finland and Denmark) are characterized by nearuniversal access to ECE, very high levels of public spending and a central role of municipalities in financing and provision. In these systems, the bulk of funding for preschool institutions comes from national and local government budgets, often exceeding 80–90 percent of total expenditure per child. Municipalities allocate resources using perchild formulas and receive equalization transfers from the central level to compensate for differences in their tax base, thereby supporting territorial equity (Eurydice, 2025).

Parental fees exist but are capped, incomedependent and frequently waived for lowincome families, which keeps outofpocket costs relatively low while safeguarding broad access. Private or nonmunicipal providers can operate within the system but must comply with national quality standards; they typically receive the same perchild public subsidy as municipal institutions, in line with a “providerneutral” funding approach.

2. Continental European model

In continental European countries such as France, Belgium and Germany, preschool education for children aged three to five is increasingly integrated into the formal education system and, in many cases, is free or heavily subsidized (OECD, 2025a). Financing combines supplyside subsidies to institutions with demandside benefits to households, including family allowances, tax deductions and partial reimbursement of childcare fees (European Parliament, 2011).

A characteristic feature of this model is the coexistence of public, governmentdependent private and independent private providers. Public authorities often fund both public and governmentdependent private settings on a similar basis, while still allowing independent institutions to charge higher fees, sometimes with limited public support. This mix allows for diversity of provision but requires clear regulatory frameworks to ensure consistent quality and fair access across different types of providers.

3. AngloSaxon (marketoriented) model

The AngloSaxon model, as observed in countries such as the United States and the United Kingdom, relies more strongly on private provision and household payments, with public funding targeted to specific age groups and disadvantaged families (OECD, 2025a). Governments frequently use vouchers, meanstested subsidies and tax credits to support participation, while leaving substantial room for market dynamics in shaping the supply of services.

This approach encourages provider diversity and parental choice, but it also risks higher inequalities in access and quality, especially when public subsidies are insufficient to compensate lowincome families for high fees. To mitigate these risks, many AngloSaxon systems have introduced universal free hours for certain age cohorts and strengthened regulation of quality standards in both public and private settings (OECD, 2025b).

Crossnational studies highlight a range of instruments used to improve the efficiency, equity and transparency of ECE financing (OECD, 2025a; R4D, 2016). Among the most relevant are:

- Perchild (percapita) funding formulas, which transfer resources to providers based on the number of enrolled children rather than historical budgets, thereby incentivizing expansion of access and more flexible management of resources.
- Adjusted or weighted funding, where higher perchild rates are applied for rural or remote areas, children with disabilities, and socioeconomically disadvantaged families, in order to address higher unit costs and promote equity.
- Demandside support mechanisms (vouchers, fee subsidies, tax credits) that reduce the financial burden on households while encouraging competition and innovation among providers, provided there is adequate regulation of quality.
- Intergovernmental equalization grants that reduce disparities in fiscal capacity across regions or municipalities and help ensure a minimum standard of ECE services nationwide (Eurydice, 2025).

In recent years, Uzbekistan has made early childhood development a key policy priority, expanding the network of preschool facilities, introducing alternative forms of provision and collaborating with international partners. The World Bank’s Promoting Early Childhood Development Project and related initiatives have supported infrastructure development, teacher training and quality improvements, particularly in underserved regions.

Table 1. Stylized comparison of international ECE financing models

Dimension	Nordic model	Continental European model	AngloSaxon model
Main funding source	Central and municipal budgets (high public share)	Public budgets + subsidized private sector	Mixed: household fees + targeted public subsidies
Allocation mechanism	Perchild funding with equalization transfers	Institutional funding + family benefits/tax relief	Vouchers, fee subsidies, tax credits to households
Parental fees	Low, incomedependent caps	Moderate, often partly reimbursed	Often high, especially without subsidies
Role of private providers	Limited but publicly subsidized	Significant, including faithbased providers	Central, wide variety of providers
Policy priority	Universal access and equity	Integration into education system and social cohesion	Choice and flexibility, targeted support for vulnerable groups

Despite this progress, important challenges remain, including significant urban–rural disparities in access, limited fiscal space at the local level and the need to ensure the financial sustainability of nonstate providers. Addressing these issues requires not only additional resources but also more sophisticated financing mechanisms that channel funds strategically to where they are most needed and create incentives for quality and inclusion.

In terms of policy objectives, Uzbekistan is moving towards a highcoverage model that resembles Nordic and continental European systems, aiming to ensure that all children have access to preschool services before entering school. However, the current mix of funding sources places the system closer to a hybrid configuration between continental European and AngloSaxon models.

Compared with highincome countries, public expenditure on ECE as a share of GDP remains lower, and regional variations in economic capacity are more pronounced. This context suggests that Uzbekistan cannot simply replicate a single foreign model; instead, it needs a tailored combination of instruments that reflect its fiscal constraints, demographic trends and institutional architecture.

Policy options for Uzbekistan: adapting international experience

1. Strengthening perchild funding with equityoriented weights

Uzbekistan could further develop perchild funding formulas for preschool institutions, defining a national base rate per enrolled child and applying additional weights for rural locations, lowincome communities and children with special needs. Such a formula would align national and local budgets around a clear and transparent rule, while directing more resources to areas where the cost of provision and barriers to access are highest.

2. Introducing or expanding equalization transfers to regions

Building on the Nordic experience, the central government may enhance equalization mechanisms in intergovernmental finance so that regions with weaker revenue bases receive additional transfers linked to demographic and socioeconomic indicators. This would help ensure a minimum standard of ECE services across the country and reduce geographic disparities in access and quality.

3. Supporting households and nonstate providers through vouchers and fee subsidies

Uzbekistan could pilot an ECE voucher or feesubsidy scheme that allows parents to choose between public and accredited nonstate providers, while the state covers a substantial share of the cost for lowincome families. This approach would stimulate the development of diversified provision, particularly in areas where building new public facilities is costly, but would require strong quality assurance and monitoring.

4. Leveraging resultsbased and innovative financing

Resultsbased financing mechanisms, such as outcomesoriented grants or performancebased contracts, could be used to reward providers and regions that achieve improvements in enrolment, quality indicators and inclusion of vulnerable children. In collaboration with development partners, Uzbekistan could also test innovative instruments—such as impact bonds or blended finance—for targeted expansion of services in the poorest districts.

5. Prioritizing data, monitoring and multisector coordination

International evidence underscores that sophisticated financing systems require reliable data on costs, enrolment and outcomes, as well as strong coordination between education, health and social protection sectors (R4D, 2016). For Uzbekistan, continued investment in monitoring systems and crosssector planning will be essential to refine funding formulas, track equity impacts and ensure that increased spending translates into better child development outcomes.

CONCLUSION AND SUGGESTIONS

The academic literature on early childhood education and care provides a strong justification for prioritizing ECE as a central pillar of education and social policy. Studies grounded in human capital theory and longitudinal evaluations demonstrate that investments in early years yield some of the highest social returns among education interventions, particularly when programmes are highquality and accessible to disadvantaged children (Heckman, 2006; Barnett, 2011). At the same time, comparative research shows that institutional design matters: the way ECE is financed—who pays, how funds are allocated, and under what regulatory conditions—profoundly shapes patterns of access, quality and inequality (Bennet, 2000; Moss, 2013; Penn, 2011).

For Uzbekistan, which is in the midst of expanding its preschool system after a period of underinvestment, international experience suggests that simply increasing spending will not be sufficient. What is needed is a coherent financing architecture that: (1) provides a stable public funding base through transparent perchild formulas; (2) incorporates equityoriented weights to address higher costs in rural, remote and disadvantaged communities; (3) uses carefully designed demandside support to enable lowincome families to access both public and accredited nonstate providers; and (4) progressively strengthens quality assurance and regulatory capacity as the network of providers diversifies (Aldashev & Mamedov, 2019; Daly, 2015).

In practice, this points towards a hybrid model for Uzbekistan that draws on the universalist ambitions of Nordic systems, the integration of preschool into the broader education trajectory found in continental Europe, and the selective use of demandside instruments characteristic of AngloSaxon regimes, but adapted to the country's fiscal constraints and administrative realities. Such a model can be developed incrementally, starting with pilots of weighted perchild funding and targeted fee subsidies in specific regions, accompanied by rigorous monitoring and evaluation. Over time, a more sophisticated financing system can emerge, capable of supporting both rapid expansion and sustained improvements in quality and equity.

Ultimately, the challenge for Uzbekistan is not only to secure adequate resources for preschool education but also to allocate these resources in ways that equalize opportunities for all children, regardless of their place of residence or socioeconomic background. Drawing on the insights of the international academic literature and the comparative analysis presented in this paper, policymakers have a robust conceptual foundation for designing financing reforms that can help deliver on this objective.

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