Study on the feasibility of using public-private partnerships to expand access to preschool in Serbia

Final report

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Preface

This assignment is being carried out by OPM. The project manager is David Jeffery. The remaining team members are Sunčica Vujić, Lara Lebedinski, Aleksandar Baucal, and Vladimir Bojković. For further information contact david.jeffery@opml.co.uk.

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Clarification of terms

The pre-primary education sector, both in Serbia and internationally, uses a variety of terms for the period of education and care provided to children before primary school. We offer the following clarification to the terms used in this report:

- **Early Childhood Education and Care** (**ECEC)** refers to the "any regulated arrangement that provides education and care for children from birth to compulsory primary school" (EC, 2019).
- **Early Childhood Education (ECE)** typically refers to the provision of education and care for children (within an institution or not) for children above the ages of 2-years old and before they start primary school. In order to prevent confusion with "ECEC" and "preschool", we do not refer to ECE in this report.
- **Preschool** refers to the institutionalised provision of education and care for children typically above the age of 3-years old and before they start primary school.
- **Compulsory preschool** refers to the period of preschool in Serbia that is compulsory, i.e. for children between the ages of 5.5- and 6.5-years old at the start of the programme.
- **Kindergarten** refers to the provision of preschool in the year prior to their enrolment in primary school, which is typically between the ages of 5- and 6-years old. In this report, we do not use this term in the Serbian context so as to prevent confusion with 'compulsory preschool', but it is nonetheless used in case studies of other countries.

Executive summary

While there have been significant gains and innovations in expanding access to preschool in Serbia, there are nonetheless substantial challenges to equitable enrollment. In particular, enrollment remains low for children between the ages of 3- and 5.5-years old, especially from low-income and Roma families. This study has been commissioned by UNICEF in order to better understand models of public-private partnerships (PPP) and whether such models are a feasible means of increasing preschool enrollment. PPPs present an opportunity for government and local authorities to work with the private sector to expand coverage of the preschool education, but also raise important considerations about ensuring quality and equity.

Preschool in Serbia

Serbia is aligned with other European countries on most common indicators for preschool standards and quality. These include teacher qualifications, class sizes, and qualitative considerations of pedagogy. Serbia has stronger professional requirements than most European countries for preschool head teachers, and the amount of continuing professional development (CPD) required of preschool teachers. However, Serbia is in a large minority of countries (including most of its neighbours) in lacking regulated home-based early childhood education and care (ECEC) provision.

The statistics on enrollment, and the prevalence of private preschools, differ considerably between municipalities based on their levels of GDP per capita. The poorest municipalities have the lowest enrollment rates, but the wealthiest municipalities have the largest numbers of unenrolled children. Private preschools seem to only be a significant feature of the wealthiest municipalities; and, in particular, of those municipalities that have instituted a voucher system.

Vulnerable and marginalised families appear to be under-represented throughout the preschool system. Precise assessments of inequity were not possible with the PSV datasets used for this report, but estimates could be calculated using the MICS 2019 data. The percentage of children aged 36 to 59 months attending preschool was 80.2% for the wealthiest quintile, while this decreased to 10.5% in the lowest quintile. Only 7.4% of Roma

children in this age group attended preschool. Similarly, while 30.8% of families with children aged 0 to 4 years receive child benefits nationally, children aged 3 to 6.5 years from such families make up only 5% of preschool enrollment.

Current preschool PPPs in Serbia

The regulations that govern PPPs between local self-governments (LSGs) in Serbia and private preschool providers are not clearly defined. Individual LSGs are able to exercise considerable discretion in how to approach PPPs, and thus how this is done in practice varies significantly. Private preschools are required to meet the same standards of quality as public preschools, but are not required to prioritise vulnerable or marginalised families in their enrolment intake, notwithstanding special agreements with the LSG. Private preschools are reportedly inspected carefully to ensure that they meet the standards of educational input, but appear to receive fewer visits than public preschools to inspect the quality of teaching and learning.

The increase in private enrolments appear to have been primarily responsible for the increase in overall preschool enrollment in Serbia between 2015 and 2018. This is particularly the case in those municipalities that have introduced the voucher system, which account for 78% of the increase in enrollment nationally. In these municipalities, 92% of new preschools over this period were privately owned. Less developed municipalities (i.e. those in which GDP per capita was below the national average) accounted for 22% of the increase in enrolments nationally. In developed municipalities without the voucher system, total enrolments shrunk marginally.

The LSGs currently implementing the voucher system provide important lessons about how this model may be used in Serbia. This report studied Belgrade, Kragujevac, and Niš. The eligibility conditions for the voucher varied, and this has significant implications for equity. In Kragujevac, families were explicitly prioritised according to their level of vulnerability and marginalisation. In Belgrade, no such criteria were considered. In Niš, the voucher was only available for families with two working parents earning below a certain threshold. In all three cities, families were only eligible for the voucher if they had not been able to enrol their child in a public preschool due to insufficient space.

The bureaucratic challenges of registering a preschool will impede any PPP arrangement. Difficulties with registration were reported as the most common and severe challenge by private preschools interviewed for this study. This is a common difficulty for many other countries too, which have subsequently invited public consultations in order to simplify the registration process.

Potential models of preschool PPP

The international evidence available on PPPs in education is limited, and this is especially so for preschool education. Three models of PPP are common; subsidies in which funding is allocated based on requirements met by the school, vouchers in which funding is allocated based on requirements met by the family, and concessions in which competitively selected private providers either manage public schools and/or receive substantial and exclusive support from government. Of these three models, the evidence on subsidies is weakly positive, the evidence on vouchers is mostly mixed, and the evidence on concessions was generally mixed but included a substantial number of studies that report negative effects on learning outcomes.

While the models used by other European countries varies, there are nonetheless practices that are common across the five countries (Austria, Slovenia, Latvia, Norway, and Finland) studied in this report. All but one country used either a voucher or subsidy model, and all but one country devolved the management of private preschools to a local government level. In all countries, private providers were responsible for recruiting and manging their staff, and had to either use a national curriculum or submit their curriculum to the state for approval. All preschools had to meet state-defined quality standards based on inputs, rather than educational outcomes.

This report considered ten models of PPP, split between voucher (2 models), subsidy (5 models), and concession (3 models) systems. Different variations were considered for each of these models, as well as the various risks that each model would imply for the LSG, private provider, and families. Two of these models were rejected after initial analysis. We calculated the relative costs to government for each of the remaining 8 models, and compared this to the likely cost of public provision.

The current voucher system appears likely to be the most effective and equitable of the models considered. A key advantage of the model is that it directly increases the accessibility of preschool by making preschool more affordable. In exploratory interviews, it received the most support from private preschool providers and LSGs. This was chiefly because the model was familiar, and it did not require substantial engagement from the LSG in the internal operations of private preschools. A voucher system for private preschools is also the only model that does not require regulatory reform, although reform may still be desirable to standardise the approach between LSGs and provide policy certainty. A variation of the model that extends the voucher to private family nurseries would require significant reform, in order to regulate family nurseries as providers of preschool.

The subsidy models, although promising, had significant limitations. While a subsidy model would reduce the costs of the private provider, a key disadvantage of this model is that it is unclear to what extent this would be reflected in reduced fees for families. LSGs rejected the operational subsidy, since it would require assessing the staffing decisions of private providers. Subsidies would also require significant regulatory reform in order to enable LSGs to fund private preschools directly.

In terms of cost, either a voucher or subsidy programme would be significantly more affordable to government than solely public provision. Given a 50 percentage point increase in enrolments by 2025, a voucher system would require up to RSD 13.6 billion (EUR 111.7 million), an operational subsidy would require RSD 8 billion (EUR 59.7 million), and a once-off subsidy (i.e. start-up grant) would require up to RSD 19.8 billion (EUR 168 million). If LSGs were to be solely responsible for financing public facilities, the same increase in enrolments would require RSD 79.9 billion (EUR 601 million). Although voucher systems are more expensive to the LSG than a subsidy model, this is because a greater proportion of the cost is borne by the LSG rather than families – and thus the voucher model is the more equitable option.

The concessionary models were the least feasible of the models considered. A large concession was rejected as it would restrict the entry of other private preschools while also requiring that the LSGs bear significant risk. A medium concession which utilised otherwise unused public buildings was rejected since most preschools appeared to own their own facilities. A small concession based on underwriting a minimum number of places was

rejected after preschools in less developed municipalities reported that enrolling a minimum number of children was not a challenge.

Recommendations

We offer the following 5 recommendations:

1. The **voucher system** is the most advisable model for expanding access to preschool equitably in Serbia, in both urban and rural municipalities.
2. A **deliberate focus on equity** is necessary to counter-balance current enrollment trends –
    a. The vouchers should be allocated according to **a set of criteria based on socio-economic need**, and these vouchers should be paid directly to preschools;
    b. A **substantial increase in funding** is required for the least developed LSGs to reach enrollment targets**.** These LSGs have both the lowest enrolment rates and the smallest budgets for preschool.
    c. The means of **calculating the economic price of preschool should be standard and transparent** across LSGs. This will enable greater fairness of private providers, and improve equity between LSGs.
3. **Simplifying the process for registering a preschool** is essential for the uptake of any PPP –
    a. In other countries, such as the UK and Australia, this has been achieved after a process of **public consultation to identify bottlenecks**;
    b. A dedicated '**PPP Centre'** may also assist preschools through the registration process.
4. Policy consistency and peer learning should be facilitated across LSGs –
    a. Regulatory reform to **clarify key legislation** would ensure consistency between LSGs and provide policy certainty for preschools;
    b. LSGs should be supported to learn from each other's use of voucher models, such as through **facilitated learning exchanges** or research briefs;
5. The suitability of the voucher model of implementation in less developed municipalities requires further research aiming to identification of specific enablers and barriers, especially in G3-5;

a. **Less developed municipalities may require additional support in administering the voucher system**, and more research on the current capacities and specific barriers of these municipalities is advisable;

b. **Further research, and ideally a pilot, of the voucher model in less developed municipalities is recommended** in order to validate the effectiveness and fine-tunings of the model and determine the efficiency of combining the voucher model with a start-up grant.

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List of abbreviations

CPD	Continuing professional development
ECEC	Early childhood education and care
FCDO	Foreign, Commonwealth, and Development Office
LFSE	Law on Foundations of System of Education and Upbringing
MICS	Multiple indicator cluster survey
MoESTD	Ministry of Education, Science and Technological Development of the Republic of Serbia
OECD	Organisation for Economic Cooperation and Development
OPM	Oxford Policy Management
PPS	Purchasing Power Standard
PPP	Public-private partnership*
PŠV	Predškolsko vaspitanje i obrazovanje (preschool upbringing and education)
SORS	Statistical office for the Republic of Serbia
ToR	Terms of reference
ZOSOV	Law of the Foundations on Systems of Education and Upbringing

*PPP is often used elsewhere to refer to Preschool Preparatory Programme. However, in this document, as per the Terms of Reference, PPP will refer to Public-Private Partnership.

1 Introduction

1.1 Rationale of the assignment

While there have been significant gains and innovations in expanding access to preschool in Serbia, there are nonetheless substantial challenges to equitable enrolment. Although participation in the compulsory preparatory preschool programme (for children between the ages of 5.5- and 6.5-years old at the start of the year) is close to universal in the general population, only an estimated 76% of eligible Roma children are enrolled (as reported in the Terms of Reference (ToR) in Annex A). Moreover, early childhood education coverage for children between the ages of 3- and 5-years old is approximately 61%. When this is further disaggregated by demographic characteristics, the challenges for equity are clear: while 80% of children from well-off families are enrolled, this is true of only 33% of the poorest two quintiles, and 7% of the Roma population (SoRS and UNICEF, 2019).

The ToR identify two possible factors contributing to this challenge. The first factor is limited demand from families, particularly if there is an adult available at home to look after the child. This is especially true if families perceive the available preschools to be overcrowded and of inadequate quality. The second factor is limited resources at the level of local government, as municipalities are responsible for covering the tuition fees of children from vulnerable and marginalised families, in addition to the general subsidy they provide to the preschool. This places significant financial strain on those municipalities with a high concentration of vulnerable and marginalised families.

Public-private partnerships (PPP) present an opportunity to work with the private sector to expand preschool education, but also raise important considerations about ensuring quality and equity. This study has been commissioned by UNICEF in order to better understand existing models of PPP and whether they are a feasible response to the need to increase preschool enrolment, particularly for vulnerable and marginalised families.

1.2 Purpose of this report

For this assignment as a whole, the ToR specify that:

> "These country-level scoping exercises and analyses seek to provide clarity on the existing different forms of PPP models and its feasibility to inform further policy development in Serbia in the area of preschool education with the focus on governance, financing modalities, quality assurance, risks, and potential adverse unintended outcomes." (p.3)

This current report is based on an early inception report (submitted in November 2019) and overall assessment of PPP options (submitted in December 2020). As per the ToR, the overall assessment provided "…the following related analyses: (a) economic analysis, (b) institutional analysis, (c), technical design, (d) preliminary financial model and financing plan assumptions, and (e) evaluation of PPP options culminating in a recommended PPP model… [as well as a] focus on governance, financing modalities, quality assurance, risks and potential adverse unintended outcomes" (p.3). In Annex A, we provide clarifications of these activities, as documented in the inception report.

This final report builds closely on the overall assessment, as well as comments received from UNICEF. As per the ToR, this report provides a "synthesis and the analysis of the literature review, case studies and the assessment in Serbia with the focus on key elements of the public private partnerships, challenges, recommendations and lessons learned based on international experiences and efficient and quality public-private partnership models" (p.4-5). This is a detailed document, and accessible policy briefs for wider consumption will be prepared separately.

1.3 Scope of this assignment

It is important to note a two limitations in the scope of this assignment upfront.

First, it is beyond the terms of this assignment to consider in any detail whether access to preschool *should* be increased via PPPs or through an increase in public provision. Although we compare relative costs of public and private provision, such a decision should be based on much more than the cost alone. Rather, we consider whether it would be feasible to increase access to preschool through PPPs, and, if so, which models would be most suitable for Serbia.

Second, we have focused on models of PPP that would support the provision of preschool education on a regular basis for a minimum of 20-hours per week. This is the minimum legal entitlement guaranteed by most countries in Europe (Eurydice, 2019: 48). There may be alternative modes of provision that may provide less contact than this (such as those considered in Section 5.3.1), these would be insufficient for providing mainstream access to ECEC and thus have not been included in depth this study.

1.4 Research questions and structure

This report is divided into three parts.

In **Part One**, we review the international literature available on PPPs in education, as well as brief case studies on common practices with PPPs in preschool education in other European countries. We review standards for preschool across Europe, and compare these to Serbia. This provides the framework for the models considered in the final section of the report. Part One addresses the following research questions identified during the inception phase:

- What is the evidence for the effectiveness of 'what works' in the use of PPP to expand access to preschool in comparable contexts? (Sections 2 and 4)
- What are the current standards for preschool in Serbia? (Section 3);
- What are the current standards for preschool in comparable contexts, such as in other countries in the region and in the EU? (Section 3);
- How does the quality of the actual provision of preschool in Serbia compare to national and relevant international and EU standards? (Section 3);

In **Part Two**, we analyse the current situation in Serbia with regard to preschool enrolment and private sector participation. This includes an analysis of the regulatory context, current statistics on access, equity, quality, and case studies of PPP arrangements in-country. Part Two addresses the following research questions:

- What is the current policy, regulatory, and institutional environment relevant to PPPs for preschool in Serbia? (Section 5)

- What is the current need or demand for preschool in Serbia, and how is this likely to grow in the long-term? (Section 6)
- What PPP arrangements in preschool currently exist in Serbia? (Section 7);
- What are the implications of the current PPP in preschool arrangements and policy context in Serbia, for the availability, accessibility, affordability, equitability, inclusivity, and quality of preschool? (Section 8)

In **Part Three**, we propose and analyse potential models for PPP. This includes a detailed description of each model and the associated risks; a summary of initial 'sounding' interviews with private preschool providers and LSGs; an economic assessment; and an analysis of the implications for regulatory reform. We concluded with a recommended model. Part Two addresses the following research questions:

- What models of PPP in preschool are possible in Serbia, and what are the key elements of such models? (Section 9);
- What are implications for equity and inclusion (such as the proportion of low-income families and Roma reached) for the most promising models? (Section 9);
- What are the potential risks, and economic and social impact, of the most promising models? (Section 9);
- For each of the most promising models, are they possible under the existing regulatory environment and, if not, what environment would be necessary? (Section 10);
- How are private service providers likely to engage with the most promising models? (Section 11);
- What are the implications for financing and sustainability for the most promising models? (Section 12);
- Are the most promising models plausible given the current capacity to deliver preschool services in Serbia? (Section 12)

The methodology for each research activity is outlined in the relevant section, and described in detail in the indicated annex. Ethical considerations for the study have been included in Annex I.

2 Literature review

In this section, we review the literature on PPPs in education, with an interest in the evidence available on different models of PPP in preschool education in particular. This review provides the context for the models we propose in Section 8.

We begin with an overview of the methodology for this literature review (2.1). We outline different kinds of PPPs in education (2.2) and the international evidence available on their effectiveness (2.3). We then consider relevant case studies on PPPs in preschool education in Austria, Slovenia, Latvia, Norway, and Finland (2.4).

2.1 Methodology

As per the ToR, the objective of this literature review was to provide a summary of international experience at a 'meta-analysis level'. In addition, we sought to provide a summary of the contemporary theory and practice, and to consider relevant case studies with a focus on governance, financing modalities, and quality assurance. During the inception phase, we advised UNICEF Serbia that there were so few studies on PPPs in preschool education that a review on this topic would be sparse, and that the state of the literature on PPPs in education in general was not yet mature enough to undertake a formal meta-analysis. We have thus undertaken a scoping review[1] of the current literature on PPPs in education, with a particular interest in preschool.

Cambridge University has created an exhaustive database[2] of all peer-reviewed articles on PPPs in education published in English between 2010 and 2020 (EPG and REAL Centre, 2020). As of October 2019, 81 articles meeting this inclusion criteria had been identified. Of these 81 articles, two dealt with preschool education (Aran, Munoz-Doudet, Aktakke, 2018; Ekhine & Olaniyan, 2019). It is apparent that there is minimal recent peer-reviewed literature on this topic.

[1] "Scoping reviews are [used] to determine the scope or coverage of a body of literature on a given topic and give clear indication of the volume of literature and studies available as well as an overview (broad or detailed) of its focus" (Munn et al., 2018)
[2] "Education partnerships between the state and non-state sector: evidence hub", https://edpartnershipsevidence.org/ [accessed 7 November 2019]

We identified nine literature reviews from the database. Of these, three have proven especially helpful in preparing this section. Aslam, Rawal, and Saeed (2017) undertook a review of the literature, especially after 2009, which reported on PPPs in education in developing countries. They included studies that reported on (i) improvements in learning outcomes, with (ii) reported sample sizes and (iii) considerations for confounding factors. Aslam et al. (2017) then assessed the quality of each study using a framework adapted from DfID's (2014) note on 'Assessing the Strength of Evidence'. In total, 22 studies were identified. Patrinos, Barrera-Osorio & Guaqueta (2009), and LaRocque (2008) undertook reviews of the literature in both developed and developing countries – and covering both grey and academic papers – on PPPs in education prior to 2009. Although neither report on their methodology, or the number of studies included, both accounts are nonetheless considered to be definitive of the state of the literature (Aslam et al., 2017: 5).

In addition, we undertook an online search of discussion papers and working papers using the terms "public-private partnerships", together with "preschool education", "early childhood development" and "private preschool education", as well as "private provision of day-care" in combination with "private financing", and additionally "the role of private sector in childcare provision". Through the online search we identified Gustafsson-Wright, Smith, and Gardiner's (2017) working paper on PPPs in preschool education. Although Gustafsson-Wright et al.'s paper is not a literature review (given the nascent state of the literature), it has also been influential in shaping this section. The online search yielded several case studies on countries where PPPs in preschool education were implemented and the relevant case studies will be discussed. We have included both peer-reviewed journal papers in this review as well as discussion papers and working papers.

2.2 Typographies

Although there is some disagreement as to what constitutes a public-private partnership, there appears to be consensus as to their general features. These are that "they are formal in nature, involve the development of a long-term relationship between the partners, are outcome focused, include an element of risk-sharing among the partners and can involve both the voluntary and commercial sectors as private sector partners" (LaRocque, 2008). This is distinct from privatisation, which implies a permanent transfer of control. In contrast, in PPPs the public sector's role is to define the scope of business, and allocate responsibilities to

private sector actors (LaRocque, 2008). In the case of PPPs, the 'public' actor is considered to be the government (national or subnational level), while the 'private' actor can be either for-profit or not-for-profit organizations such as private businesses, philanthropic associations, local or international NGOs, faith-based organizations, and community-based organizations (Gustafsson-Wright et al., 2017: 11). A PPP may cover a variety of different tasks, such as provision of funding, implementation, training of staff, producing curriculum and materials, and providing technical assistance (Gustafsson-Wright et al., 2017).

A common classification of public-private partnerships takes into account two dimensions of such agreements: financing, and provision of service delivery initiatives. This review focuses exclusively on the type of co-operation where finance is public and provision is private, as shown in the orange box in Table 1. It is these arrangements that are most frequently considered as typical of 'public-private partnerships' in education.

Table 1: Framework for private and public engagement in ECD

		Provision	
		Private	**Public**
Finance	**Private**	Private, fee-based pre-primary schools; home schooling.	Tuition, user-fees, student loans, scholarships, and in-kind donations for public ECD programmes
	Public	Vouchers; contract schools; subsidies.	Fee-free public pre-primary schools and services

Source: adapted from Gustafsson-Wright et al. (2017) and Patrinos et al. (2009)

While the above table typically refers to a classification of particular PPP arrangements, Table 2 offers a typography for the system as a whole. This is a continuum in which the provision of education is either wholly public (and thus lacks PPP) or wholly private (where PPPs are integral). Note that this should not be read as a normative statement; it is not necessarily preferable for PPPs to be 'integral' to an education system.

Table 2: Public-private partnership continuum

	Predominantly public / limited PPP engagement			Predominately private / substantial PPP engagement		
Category	Lacks	Nascent	Emerging	Moderate	Engaged	Integral
Example	Strictly public systems (regulation, finance, provision)	Private schools exist	Subsidies to inputs in private schools	Contracts with private schools to provide a portion of education	Private management of public schools	Universal vouchers

Source: Patrinos et al. (2009)

Gustafsson-Wright et al. (2017) delineate three types of PPP models in preschool education. These are:

- **Service delivery initiatives (otherwise referred to as subsidies)**, in which the government provides financing to private providers to subsidise the cost of delivering their services to students. This may cover a proportion of the operating cost of the school (such as teacher salaries), or otherwise be provided on a per-child basis.

- **Voucher and voucher-like initiatives**, in which the government provides families with a voucher that they can redeem at a private provider. This may cover the costs of the child's admission entirely, or otherwise require additional fees from the family. While a voucher is a type of subsidy, three differences from the 'service delivery' model are noted in the literature. Aran et al. (2018) note that, in a voucher-system, government is able to more easily stipulate conditions for which families are eligible to use the voucher, such as based on socio-economic need, whereas it is more difficult to do so if the subsidy is being provided to the preschool on a per child basis. For example. Gustafsson-Wright et al. (2017: 17) note that vouchers are distinct from the 'service delivery' model insofar as the government does not purchase student places in bulk at designated schools. Aslam et al. (2017: 34) offer three core features of voucher programmes: a funding formula to determine funding per student; enrolment based on family choice (rather than location, for example); and autonomy for schools to allocate the funding received through the subsidy.

- **Private management or operation of public programmes**, in which private providers are contracted by government to either manage or operate public schools. In this model, private providers may either be paid a fee per-student, or a management fee. Teachers may be hired by the private provider, or otherwise may be government teachers who are being managed by the private provider. This model is distinct from the 'service delivery' model above, insofar as the school facilities remain public.

All three of these arrangements will typically entail a contract between the government and the private provider and require the private provider to meet certain conditions to retain their eligibility. In addition, these programmes may be targeted towards certain students – such as vouchers only being redeemable for female children or children from minority populations. All three of these models are possible with either for-profit or non-profit private providers.

For illustrative purposes, Table 3 offers examples for each of these models in either preschool or basic education.

Table 3: Examples of PPP arrangements in preschool or basic education

Subsidies
• *Pakistan, Basic Education Support Project:* Programme that supports the establishment of new private schools by providing per-student subsidies to Private School Implementation Partners (PIPs) in order to contribute to staff and operational costs for up to four years. Schools are able to charge top up fees. Additionally, PIPs receive per-student subsidies for facilities and material costs. New schools will be eligible to participate in the programme if they have over 50 students and there is no public school in a radius of 20 kilometres. • *South Africa*, *subsidies*: Government provides funding to private preschool providers who meet requirements primarily pertaining to teacher qualifications and school safety. The subsidy typically covers teacher salaries and school meals and requires schools to allow unannounced inspections from provincial government. • *Bangladesh, subsidies:* The government subsidizes at least 9 teachers at community-managed, not-for-profit, nongovernment schools. The subsidy is valued at 90% of the base salary for government teachers. Government subsidizes increases in enrolment by paying for additional teachers as long as the school meets the state criteria.
Vouchers
• *Chile, voucher scheme:* This voucher scheme involves the government paying a monthly fixed fee to subsidized private schools according to their enrolment numbers. Unlike in many subsidy systems, families have no restrictions on school selection, but private subsidized schools are not compelled to accept any student. Subsidized schools must meet minimum requirements but otherwise have flexibility in their management. Vouchers are paid directly to private schools. The government gives subsidies to private schools in low-income areas. • *Colombia, Plan de Ampliacion de la Cobertura de la Educacion Secundaria*: Vouchers are made available to students from low-income families who had been attending public schools but who had been accepted into a private school. Vouchers are renewable subject to satisfactory academic performance. • *Bangladesh, Female Secondary School Assistance Project*: Public scholarships to private schools cover the cost of girls' secondary education. Once girls have satisfied a set of requirements, the corresponding schools are paid the entire tuition amount. Additionally, girls receive a stipend expected to cover 50% of their additional school expenses. Other components of the project include curriculum reform, instructional materials development, teacher training, improvement of school infrastructure, and institutional capacity building.
Private management
• *Colombia, concession schools:* The management of public schools is turned over to private providers with track records of delivering high-quality education under performance-based contracts; • *United Kingdom, academies:* Academies are schools which are managed by businesses, faith-based groups, or voluntary groups, working in partnership with the central government and local education partners. While funding is provided by the central government, private organisations can sponsor academies and contribute up to £2 million towards their creation.

- *United States, charter schools:* Charter schools are publicly funded, privately run, secular schools of choice that operate free from the regulations that apply to other public schools. Charters are granted for three- to five-years. Schools must meet academic benchmarks and standards on curriculum and management, or the contracts can be revoked.

Source: Examples taken from Gustafsson-Wright et al. (2017) and Patrinos et al. (2009)

2.3 Evidence

There is consensus in the literature that there is limited empirical evidence on the effectiveness of PPPs in education against any objective criteria such as increasing access or learning outcomes. There are very few high-quality empirical evaluations available, and taken together their findings have been described as inconclusive (Aslam et al., 2017: iii; Languille, 2017: 14; Irfan & Nutlet, 2016; Barrera-Osorio & Raju, 2015; Patrinos, 2009: 31). In part, this is because methodologically it is difficult to attribute impact, since students are rarely randomly selected, nor are control groups readily available (Patrinos, 2009: 35). As an illustrative example, a systematic literature review on the effectiveness of school vouchers found that only two studies fit the inclusion criteria[3] (Morgan, Petrosino, & Feonius, 2015).

For PPPs in preschool, the state of the literature is even direr. A recent and reportedly exhaustive review of peer-reviewed experimental studies published in academic journals in English between 2010-18 did not find a single study on preschools that met these criteria (Downing & Rose, 2019)[4]. We have nonetheless included studies published as either discussion papers or working papers, although these vary as to whether they include experimental data.

Our summary of the evidence in this section is thus primarily based on the literature available on PPPs in primary and secondary education, with a focus on developing countries. Although preschools are different to primary and secondary schools, there are clear similarities in the mode of classroom-based provision. For example, across all three levels of education public-private partnerships operate in similar ways – i.e. schools rely predominately on fees paid by parents, schools' expenditure is predominately teacher salaries, rent, food, and learning

[3] These were that the study had an experimental design, and provided data comparing treatment and control groups at baseline.
[4] This was expanded to two studies once the experimental condition was lifted - Aran, Munoz-Doudet, Aktakke, 2018; Ekhine & Olaniyan, 2019 (EPG and REAL Centre, 2020).

materials, and governments typically provide support through subsidised operational expenses or vouchers.

Nonetheless, there are three important differences which should be kept in mind when interpreting the literature. First, preschool for children under the age of six is rarely compulsory, which means that parents' choices are not restricted to public vs. private schools, but rather public vs. private vs. non-enrolment. Second, it is relatively common for ECEC to be provided through modes other than classroom-based provision, such as through the use of childminders or parents. Taken together, these considerations mean that there are many more options for public-private partnerships for preschool than there are for other levels of education. We address a few of these alternatives in Section 2.4 of this literature review, where we consider case studies of public-private partnerships for ECEC from developed countries within Europe. Finally, unlike children in primary and secondary school, children in ECEC are not subject to standardised achievement tests. Consequently, PPPs that link funding to improvements in academic achievement would not be feasible (or desirable) for ECEC.

For the purposes of this review, it is especially concerning that there is a lack of research into the mechanisms within PPP arrangements that drive the observed results (Bano, 2017; Languille, 2017: 16; Bettinger, 2011: 562). At present, PPPs in education are for the most part a 'black box', which makes it particularly challenging to provide recommendations given how much variation there is between different PPP arrangements.

We provide a summary of the evidence on effectiveness below, which we divide into subsidies, vouchers, and private management arrangements. The summary focuses primarily on the impact on learning outcomes, as this is the focus of the available literature reviews. However, as the objective of this assignment is to assess the feasibility of PPP models to improve access and equity, we have included these findings when they have been reported.

As detailed in Section 5 of this report, once we have identified models that demonstrate promise within the Serbian context we will return to the literature, and consider in greater detail studies relevant to those models.

2.3.1 Subsidies

Of the three PPP models outlined in the literature, the evidence in favour of government subsidies to private schools is the most positive. Aslam et al. (2017) reviewed nine studies covering Colombia, Pakistan, Peru, Philippines, Sierra Leone, Uganda, and Venezuela, all of which examined the relationship between government subsidies for private or faith-based schools and learning outcomes. Using their adaptation of FCDO's (2014) 'Assessing the Strength of Evidence' framework, Aslam et al. (2017) classified two of these studies as 'high quality', one as 'medium/high', four as 'medium', and two as 'medium/low'.

All nine studies reported positive learning outcomes. Aslam et al. (2017: vii) conclude that "the existing evidence is weakly positive, suggesting government subsidies to private schools might have benefits when it comes to improving learning outcomes" and that "there is some evidence to support the claim that these programmes are reaching poorer members of society and therefore have the potential to improve their learning outcomes". Overall, while they note that the quality of the evidence varies, they conclude that there is "a modest body of evidence for a weakly positive relationship between subsidies to private or faith-based schools and the learning outcome of their students." We reproduce Aslam et al.'s (2017: 24) table categorising the findings and strength of each study in Table 4.

Table 4: Evidence review - subsidies

		Quality			
		High	**Medium/High**	**Medium**	**Medium/Low**
Finding	**Positive**	Pakistan (Barrera-Osorio & Raju, 2014), Uganda (Barrera-Osorio et al., 2016)	Venezuela (Allcot & Ortega, 2009)	Colombia (Osorio & Woden, 2014), Sierra Leone (Woden & Ying, 2009), Uganda (Crawfurd, 2016; Economic Policy Research Centre, 2016)	Pakistan (Malik, 2010), Philippines (World Bank, 2011)
	Neutral	-	-	-	-
	Mixed	-	-	-	-
	Negative	-	-	-	-

In Venezuela (Allcot & Ortega, 2009; Osorio & Woden, 2014), Colombia (Osorio and Wodon, 2014), and Sierra Leone (Wodon & Ying, 2009), subsidies were provided to private schools that established themselves in the most disadvantaged areas of the country in order to cater specifically to children from low-income families. Although the study in Colombia found small- to medium- effect sizes for scores in maths and reading, the studies in Venezuela and Sierra Leone had only marginal improvements after controlling for background characteristics (Aslam et al., 2017: 32). Similarly, an initiative in Uganda that provided per-student subsidies to private schools, and then prevented schools from charging fees for these subsidised students, was successful in increasing enrolment in private schools in which there was excess capacity (Barrera-Osorio et al., 2016). In Pakistan, in a medium/low quality study Malik (2010) found that a per-student subsidy given to private schools, conditional on students meeting certain performance standards, reduced drop-out rates.

Patrinos et al (2009) reviewed two studies in Pakistan and Colombia which examined the effect of subsidies to private schools on enrolment rates and learning outcomes respectively. Kim, Alderman and Orazem (1999), using randomisation in their study design, found that subsidies in Balochistan in Pakistan lead to a 22-percentage point increase in girls' enrolment. Conversely, Uribe et al. (2006), using a difference-in-differences approach[5], found that there was no difference in learning achievement between participating private schools and matched public schools in Bogota in Colombia.

Regarding childcare, Aran et al. (2018) undertook an ex-ante simulation of the use of subsidies and vouchers to promote access to childcare centres in Turkey. Their model suggests that a combination of an operational (e.g. per child) subsidy and an initial 'start-up' grant for new centres would lead to the largest increase in enrolment in contexts where there is a limited supply of preschool. In their analysis, their second most effective model is the use of an operational subsidy without an initial start-up grant (Aran et al., 2018: 19). These would also be the most cost-effective options (Aran et al., 2018: 22).

A subsidy provided to preschools may be the most common model of PPP internationally. In Mexico, for example, in 2007 the *Estancias Infantiles para Apoyar a Madres Trabajadoras*

[5] Difference-in-differences is an econometric technique that compares the average change in an outcome over time in a treatment group to that average change in outcome over time in a control group.

programme provided new preschools with initial grants as well as a per-child subsidy. The programme lead to a rapid increase in enrolment, as well as improved female labour force participation which was the primary objective of the programme (Calderon, 2014; Diaz & Chamussy, 2013). Similarly, in the Republic of Korea, private preschools may receive a subsidy from the municipal government of Seoul to offset their labour costs in return for complying with identical standards to public preschools (Aran et al., 2018: 2). The majority of Seoul's private preschools participate in this scheme (OECD, 2012).

2.3.2 Vouchers

In contrast to the broadly positive findings on government subsidies to private schools, the evidence on the effectiveness of school vouchers is more ambiguous. Aslam et al. (2017) reviewed nine studies on voucher programmes published after 2009, six of which are in Chile, one in India, one in Pakistan, and one is a systematic review. In their assessment of the quality of these studies, Aslam et al. (2017) found that one was of 'high' quality, two were 'medium/high', five were 'medium', and one was 'medium/low'. As before, we reproduce Aslam et al.'s (2017: 24) table categorising the findings and strength of each study in Table 5.

Table 5: Evidence review - vouchers

		Quality			
		High	**Medium/High**	**Medium**	**Medium/Low**
Finding	**Positive**	India (Muralidharan & Sundararaman, 2015)	-	-	-
	Neutral	-	-	-	-
	Mixed	-	Chile (Anand et al., 2009), several contexts (Shakeel et al., 2016)	Chile (Elaqua et al., 2009; Elaqua et al., 2011; Contreras et al., 2009; Lara et al., 2009; Mizala & Torche, 2012)	Pakistan (Malik, 2010)
	Negative	-	-	-	-

Only one (Muralidharan and Sundararaman, 2015 in India) reported a positive result, while the remaining studies each reported mixed findings. Aslam et al. (2017: vii) conclude that although the studies they reviewed were generally of a high-quality, the "body of evidence for

the relationship between voucher provision and learning outcomes is mixed and inconclusive, and therefore insufficient."

Although few of these studies report an impact on overall enrolment, the findings in this respect are nonetheless positive. In Pakistan, the Education Voucher Scheme found a relationship between increased enrolment and vouchers aimed specifically at low-income families, which provided free tuition at private schools (Malik, 2010). A key feature of apparent successes such as these is that schools cannot choose which children to enrol. Otherwise, Aslam et al. (2017: 37) caution that enabling schools to enrol students selectively, either explicitly or through charging additional fees, may increase inequity and social stratification, such as in the case of Chile.

Patrinos et al. (2009) reviewed 12 studies on voucher programmes, seven of which are in Chile, two of which are in Colombia, and the remainder of which are in developed countries. Their assessment of the evidence is more positive than that of Aslam et al. (2017) – all but one study reported improvements for learning achievement or repetition rates with small-to-medium effect sizes. However, like Aslam et al. (2017), Patrinos et al. (2009) do not provide an account of the strength of this evidence. Nonetheless, Shakeel, Anderson, and Wolf (2016) for the most part share this positive assessment in their meta-analysis of 19 randomised controlled trials on voucher programmes published after 2005, which found that overall such programmes were associated with a statistically significant improvement in learning outcomes. Aran et al.'s (2018) ex-ante simulation of the use of vouchers to expand enrolment in Turkey calculated that vouchers were much less effective and cost-effective than subsidies. However, their analysis assumes that vouchers would not lead to an increase in the supply of preschool, and their reasons for making this assumption are not clear.

Vouchers in Chile and Colombia

The Chilean programme, implemented in 1981, is perhaps the most comprehensive and well-known experiment in public-private partnerships in education, and so deserves further comment. The voucher system in Chile went through three phases of funding. From 1981-1993, the value of the voucher was constant irrespective of families' socioeconomic status and schools participating in the programme were not allowed to charge additional fees. From 1993, schools were allowed to charge 'add-on' fees to supplement the value of the voucher. In 2008, the voucher system was reformed again to include a 'preferential school voucher'.

Schools participating in the preferential voucher programme (as distinct from the ordinary voucher programme) would receive additional funding for poorer families, and additional funding if they developed and committed to a four-year school improvement plan that was measured against improvements in test scores. However, schools receiving means-tested vouchers would not be allowed to charge 'add-on' fees to poor families, and were prohibited from using parent interviews and admission tests in their selection of students (Mizala & Torche, 2012: 134 – 135).

Aslam et al. (2017: 33) argue that "on the whole, the evidence is mixed and controversial, with authors highlighting the potential for such programmes to increase social stratification and inequities… in particular, robust and more specific evidence is required on whether these voucher schemes benefit the most disadvantaged in society." The Chilean programme is unusual in its comprehensiveness, as it was a reform of the entire school system. Thus, an absence of control conditions makes a rigorous evaluation difficult. However, despite this comprehensive approach, overall education quality did not improve for many years after the reform in 1981 (Hseih and Urquiola, 2006).

Mizala and Torche (2012; 2017) provide the most detailed analysis of socio-economic equity within the Chilean voucher programme. They find that public schools serve families of all levels of income, but are predominately constituted of poorer families (i.e. households in the 1^{st} – 6^{th} poorest deciles). Private schools participating in the voucher programme also serve families of all levels of income (including the poorest), but are predominately constituted of middle-income families (i.e. households in the 5^{th} – 9^{th} deciles). Private schools that do not participate in the voucher programme are rely solely on fees serve almost only the wealthiest families. Strikingly, although the voucher-using private school sector has a whole served a diverse range of families, schools within that sector were strong stratified – in other words, schools individually typically served almost only wealthier families or almost only poorer families (Mizala & Torche, 2012: 132). The 'preferential voucher' reform did not decrease stratification in enrollment, and this may be because schools serving wealthier families did not participate in the preferential voucher programme and thus were still able to select students through parent interviews and admissions tests. However, the preferential voucher programme led to a substantial increase in test scores for poorer schools (Mizala & Torche, 2017: 177).

The findings of the programme in Colombia in 1995 are also worth exploring, given how widely it is discussed in the literature. Patrinos et al.'s (2009: 7) reading of the evidence is positive; finding that the programme is "well-targeted, effective, and efficient." Morgan et al. (2015: 76)'s review is slightly more qualified, as they conclude that although the programme made no difference to enrolment, recipients of the voucher (compared to students who did not receive the voucher) had completed 0.1 additional years of schooling, were 10 percentage points more likely to have completed 8th grade, and scored 0.2 standard deviations higher on achievement tests.

The most detailed reading of the Colombian evidence can be credited to Bettinger (2011), who notes a lack of evidence on the underlying mechanisms that may have led to these results. She argues that although voucher recipients were more likely than non-recipients to attend private schools, an analysis of these schools showed these schools to be very similar to the public schools that these students would have otherwise attended – or, in some instances, worse. Yet despite this, voucher receipts nonetheless performed better academically (Bettinger, 2011: 563; Bettinger et al., 2010). Bettinger et al. (2005) speculate that the improved results may be in response to changed incentives for students, who could only keep receiving their voucher if they were successful in being promoted to the next grade. Nonetheless, the programme was discontinued in 1998 due to a perceived lack of effectiveness.

2.3.3 Private management

There is especially limited evidence on the effectiveness of private management initiatives, and the results are ambiguous. Aslam et al. (2017) review three studies in Colombia and Pakistan, of which two reported positive findings and one reported mixed findings. However, in their assessment of the quality of these studies, Aslam et al. (2017: 19) concluded that only one study was of a 'medium/high' quality, while two were of a 'medium/low' quality. This is reproduced in Table 6. Aslam et al. (2017: vii) argue that the evidence on the impact of private management initiatives on learning outcomes is inconclusive, but notes that "the advantages of this type of arrangement are indicated not only by improved learning outcomes, but also by other educational aspects, such as enrolment, better management practices etc.", and that "while there is very limited robust evidence on whether these schools directly benefit the poorer quintiles, emerging evidence does suggest contract

schools may be able to reach more disadvantaged students in certain contexts." Malik et al. (2015) found comparatively greater gains in enrolment in schools in Pakistan that were 'adopted' by private companies, compared to those that remained wholly private. Bonilla-Angel (2011) reported that contracted schools in Colombia were intentionally constructed in the poorest areas of Bogota.

Table 6: Evidence review - private management

		Quality			
		High	**Medium/High**	**Medium**	**Medium/Low**
Findings	**Positive**	-	Colombia (Bonilla-Angel, 2011)	-	Pakistan (Malik et al., 2015)
	Neutral	-	-	-	-
	Mixed	-	-	-	Colombia (Termes et al., 2015)
	Negative	-	-	-	-

Patrinos et al. (2009) identify eight studies, only two of which are in developing countries (i.e. Colombia and Venezuela). Of these studies, three reported positive effects on learning achievement, one reported mixed results, and four found that the effect on learning outcomes was either null or negative. None of these studies appear to have reported on enrolment effects, although Barrera-Osorio (2007) reported that dropout rates in private managed schools were 1.7 percentage points lower than in publicly-managed schools in Bogota, Colombia.

2.4 Conclusion

In summary, the above analysis of the literature suggests comparatively positive evidence in favour of the impact of subsidies for private providers on children's learning outcomes and enrolment. The evidence of vouchers on private management initiatives was much more mixed.

3 Preschool quality and standards in Europe

This section provides an overview of quality standards and quality assurance processes in Europe. It summarises the *Eurydice Report on Key Data on Early Childhood Education and Care in Europe (2019 Edition).*

This section begins by outlining different approaches to quality assurance and how these are adopted in Europe. It examines specific indicators of structural and process quality, with consideration for how Serbia compares to other European countries. Finally, it outlines the state of home-based ECEC provision in Europe.

3.1 Approaches evaluating quality

The evaluation of ECEC by government or other regulatory bodies typically focuses on two dimensions:

- **Structural quality**. This refers to the school-based inputs into ECEC, such as health and safety, staff qualifications, and group sizes. An assessment of structural quality at a school-level will typically refer to state- or municipal-level standards;
- **Process quality**. This refers to the quality of teaching and support for learning processes. The main areas typically evaluation are the implementation of the curriculum (such as the quality and variety of activities, the quality of interactions between staff and children, and interactions between children.

These dimensions may be assessed through schools' self-assessment, or by an external body such as a school inspectorate. Very few countries in Europe use standardised tests to assess children in ECEC – only Bulgaria, Denmark, Estonia, Hungary, and North Macedonia.

Figure 1 represents whether external assessments focus on structural or process quality, or both, for different countries in Europe[6]. This is based on whether such assessments are required or mandated at a regulatory level.

Figure 1: Main focus on external evaluations of centre-based ECEC settings for children aged 3 and older (Eurydice 2019)

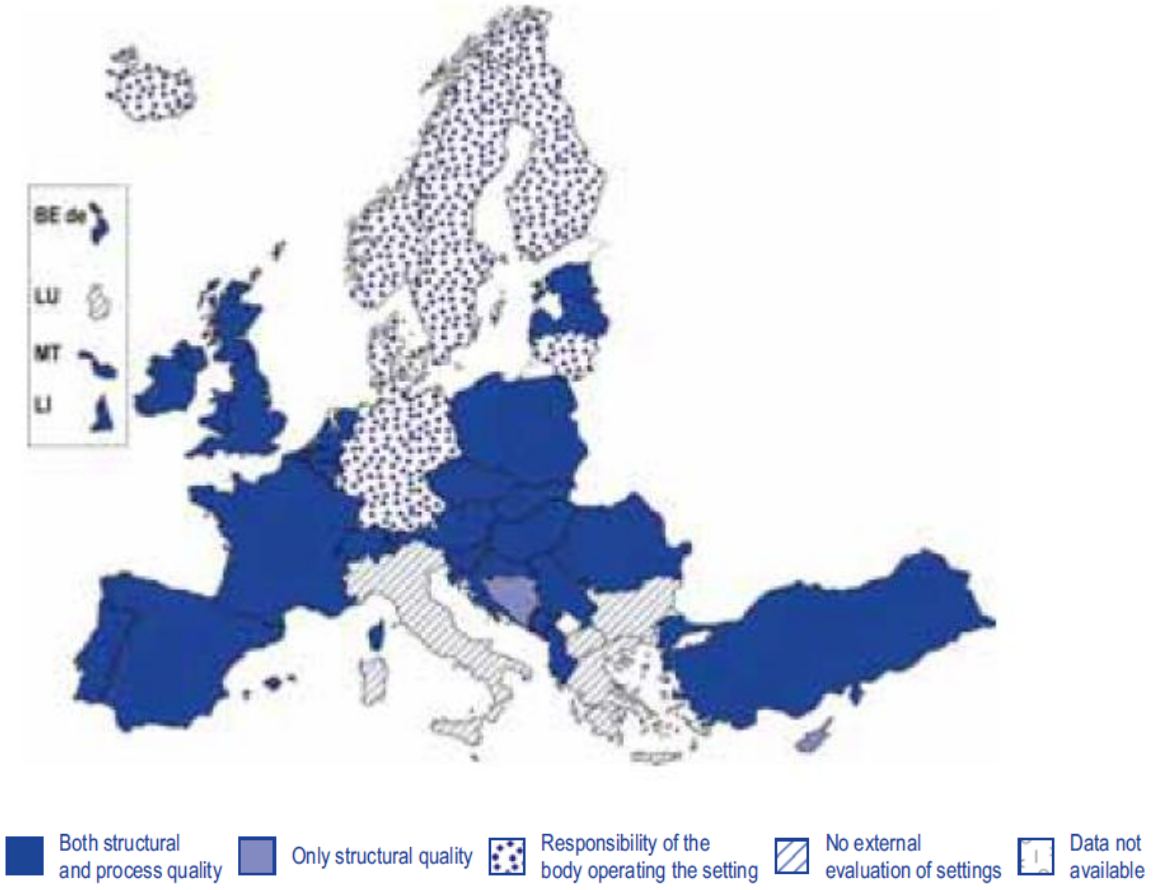


Figure 1 offers two key observations for relevance to this report. The first is that Serbia is in step with much of Europe in assessing both structural and process quality. The second, however, is a reminder that Figure 1 refers to stipulations are a regulatory level, rather than in practice; the map does not indicate the actual comprehensiveness or frequency of such evaluations in practice. There is limited comparative information available on the frequency of process and structural evaluations in practice across Europe.

[6] The quality of this image is poor, but unfortunately this is the highest quality version of the image avaliable in the Eurydice report.

The requirement of schools' self-assessment is also very common in regulatory frameworks in Europe. This is indicated in Figure 2. A self-assessment typically requires the submission of a curriculum, data against key indicators of quality, or a school improvement plan. As with Figure 1, Figure 2 indicates that Serbia is in step with much of Europe.

Figure 2: Frameworks for self-assessments of centre-based ECEC settings for children aged 3 and older (Eurydice 2019)

Loose framework | Moderate framework | Strong framework | No top-level framework | Data not available

Loose framework:	Moderate framework:	Strong framework:
– recommended – no defined frequency – no defined outcome – no requirement to develop own strategy	– compulsory – no specific frequency but must be regular or continual – requirement for settings to develop own strategy – outcomes not always defined	– compulsory – specific frequency of between one and three years – defined outcome – no requirement to develop own strategy

3.2 Quality indicators

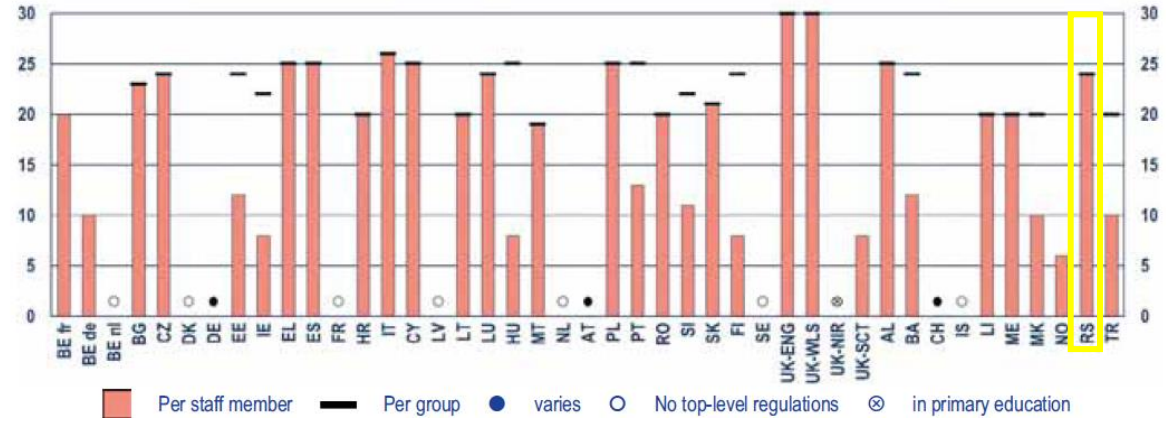
3.2.1 Structural indicators

Group sizes

Structural indicators focus on educational inputs, such as health and safety, staff qualifications, and group sizes. Two of the most common structural indicators, for which there are data across multiple countries, are class sizes (or staff/child ratios) and staff qualifications.

Figure 3 reports the maximum group sizes stipulated for 4-year olds (Eurydice, 2019: 88). 'RS', highlighted in yellow, indicates Serbia.

Figure 3: Maximum group sizes stipulated for 4-year olds



Serbia thus has one of the higher maximum group sizes and staff-to-child ratios for 4-year olds. However, it is not an outlier. For group sizes, 2 other countries have the same maximum size (Czech Republic and Luxembourg), and 7 countries have a higher maximum size (Albania, Cyprus, Greece, Italy, Spain, Poland and the UK). For staff-to-child ratios, 5 countries have the same maximum number (Czech Republic, Estonia, Luxembourg, Finland, and Bosnia and Herzegovina), and 9 countries have a higher maximum number (Greece, Spain, Italy, Cyrus, Hungary, Poland, Portugal, UK, and Albania).

Figure 4 provides more detail on the maximum group sizes and staff-to-child ratios for children of each age between 0-5 years old (Eurydice, 2019: 155). The pattern is similar, although Serbia has the highest maximum ratios for 5-year olds (26 vs. 25, since the UK

does not provide ECEC at this level). The ratios for children between the ages of 0-2 are much higher than other European countries, but this is beyond the scope of this report.

Figure 4: Maximum group sizes and staff-to-child ratios 0-5 year olds.

Ages		BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT
0	sm	7	6	9	9	○	●	4-8	○	3	4	8	5	5	●	6	○	6	6	4	3	3	4-5
	cp	7	6	9	9	○	●	4-8	○	3	6	8	●	5	●	6	○	6	6	6	3	6	8-10
	gp	●	●	18	18	○	●	●/8-15	○	●	12	8	●	5	●	6	○	6	12	12	●	12	8-10
1	sm	7	6	9	9	8	●	4-8	8	5	4	13	5	8	●	6	●	10	6	4	5	5	4-8
	cp	7	6	9	9	8	●	4-8	16	5	6	13	●	8	●	6	●	10	6	6	5	16	8-15
	gp	●	●	18	18	24	●	●/8-15	16	●	12	13	●	8	●	6	●	10	12	12	●	16	8-15
2	sm	7	6	9	9	12	●	4-8	8	6	4	18	8	14	●	16	●	15	8	4	6	8	4-8
	cp	7	6	9	9	12	●	4-8	16	6	6	18	●	14	●	16	●	15	8	6	6	16	8-15
	gp	●	●	18	18	24	●	●/8-15	16	●	12	18	●	14	●	16	●	15	16	12	●	16	8-15
3	sm	20	10	●	23	24	●	9-20	12	8	13	25	●	18	26	25	●	20	10	8	14	8	10-13
	cp	20	19	●	23	24	●	9-20	24	8	25	25	●	18	26	25	●	20	20	12	14	16	20-25
	gp	●	●	●	23	24	●	●/15-28	24	22	25	25	●	18	26	25	●	20	20	25	14	16	20-25
4	sm	20	10	●	23	24	●	9-20	12	8	25	25	●	20	26	25	●	20	24	8	19	●	10-13
	cp	20	19	●	23	24	●	9-20	24	8	25	25	●	20	26	25	●	20	24	12	19	●	20-25
	gp	●	●	●	23	24	●	●/15-28	24	22	25	25	●	20	26	25	●	20	24	25	19	●	20-25
5	sm	20	10	●	23	24	●	9-20	12	8	25	25	●	23	26	25	●	20	24	8	○	●	10-13
	cp	20	19	●	23	24	●	9-20	24	8	25	25	●	23	26	25	●	20	24	12	○	●	20-25
	gp	●	●	●	23	24	●	●/15-28	24	22	25	25	●	23	26	25	●	20	24	25	○	●	20-25

		PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	LI	ME	MK	NO	RS	TR
0	sm	5	5	4	6	5	4	○	3	3	3	3	●	3	3-6	●	3	3	4	○	7	5
	cp	5	10	4	12	5	12	○	●	●	●	●	●	6	●	●	8	6	4	○	7	10
	gp	●	10	7	12	12	12	○	●	●	●	●	●	6	12	●	8	12	8	○	7	10
1	sm	8	7	5	6	5	4	●	3	3	3	3	●	6	3-6	●	3	3	6	3	12	5
	cp	8	14	5	12	5	12	●	●	●	●	●	●	12	●	●	8	6	6	7	12	10
	gp	●	14	9	12	12	12	●	●	●	●	●	●	12	12	●	8	12	12	●	12	10
2	sm	8	9	6	6	5	4	●	4	4	4	5	●	8	4-8	●	5	3	8	3	16	5
	cp	8	18	6	12	5	12	●	●	●	●	●	●	15	●	●	12	6	8	7	16	10
	gp	●	18	9	12	12	12	●	●	●	●	●	●	15	12	●	12	12	15	●	16	10
3	sm	25	13	20	9	20	8	●	13	13	13	8	25	11	4-8	●	5	14	9	6	20	10
	cp	25	25	20	17	20	24	●	26	26	26	●	25	21	●	●	12	14	18	14	20	20
	gp	25	25	20	17	20	24	●	26	26	26	●	25	21	12	●	12	14	18	●	20	20
4	sm	25	13	20	11	21	8	●	30	30	○	8	25	12	22-26	●	20	20	10	6	24	10
	cp	25	25	20	22	21	24	●	30	30	○	●	25	24	22-26	●	20	20	20	14	24	20
	gp	25	25	20	22	21	24	●	30	30	○	●	25	24	22-26	●	20	20	20	●	24	20
5	sm	25	13	20	11	22	8	●	○	○	○	○	25	13	22-26	●	20	25	13	6	26	10
	cp	25	25	20	22	22	24	●	○	○	○	○	25	25	22-26	●	20	25	25	14	26	20
	gp	25	25	20	22	22	24	●	○	○	○	○	25	25	22-26	●	20	25	25	●	26	20

● no regulations ○ no ECEC provision for this age group

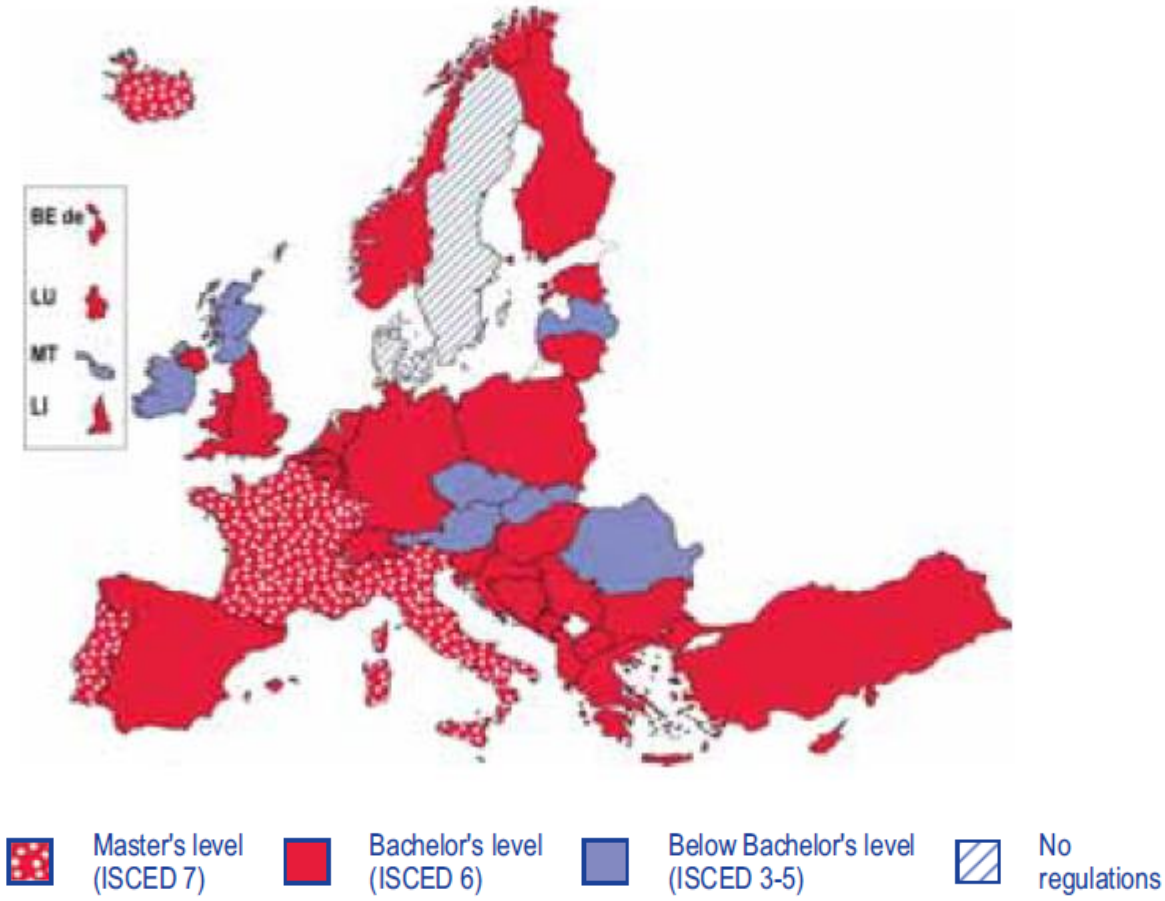
sm per staff member cp per core practitioner gp per group of children

Staff qualifications

Staff qualifications are typically divided into 3 categories: teacher qualifications, head teacher qualifications, and requirements for continual professional development (CDP).

Figure 5 indicates the minimum educational requirement for ECEC teachers.

Figure 5: Minimum educational requirement for ECEC teachers, for children 3-years old and older.



As before, Serbia is in step with much of Europe, although a few countries in Western Europe require a higher-level of qualification than in Serbia.

Figure 6 indicates the minimum educational qualifications to become a head-teacher of an ECEC centre (Eurydice, 2019: 76). Figure 7 indicates additional requirements (Eurydice, 2019: 77).

Figure 6: Minimum educational requirement for ECEC head teachers, for children 3-years old and older.

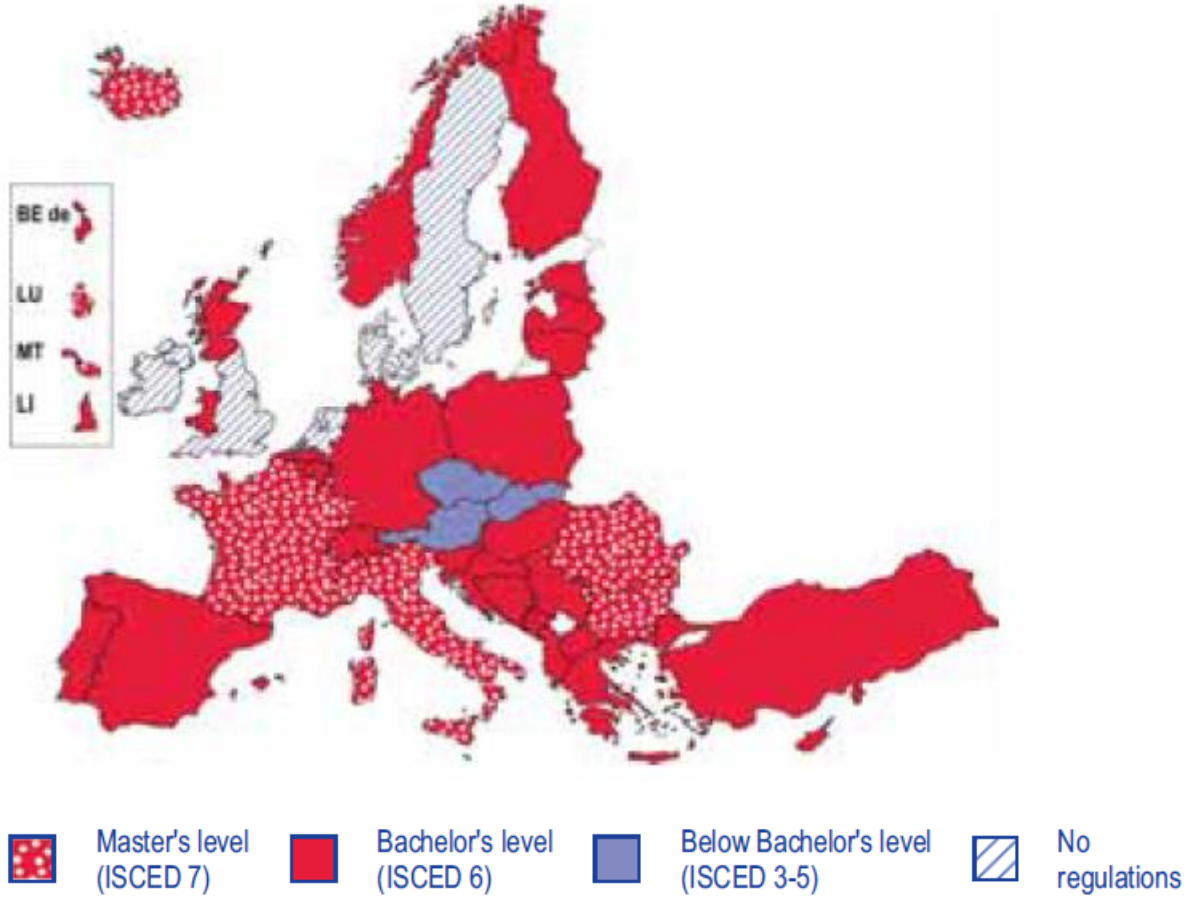
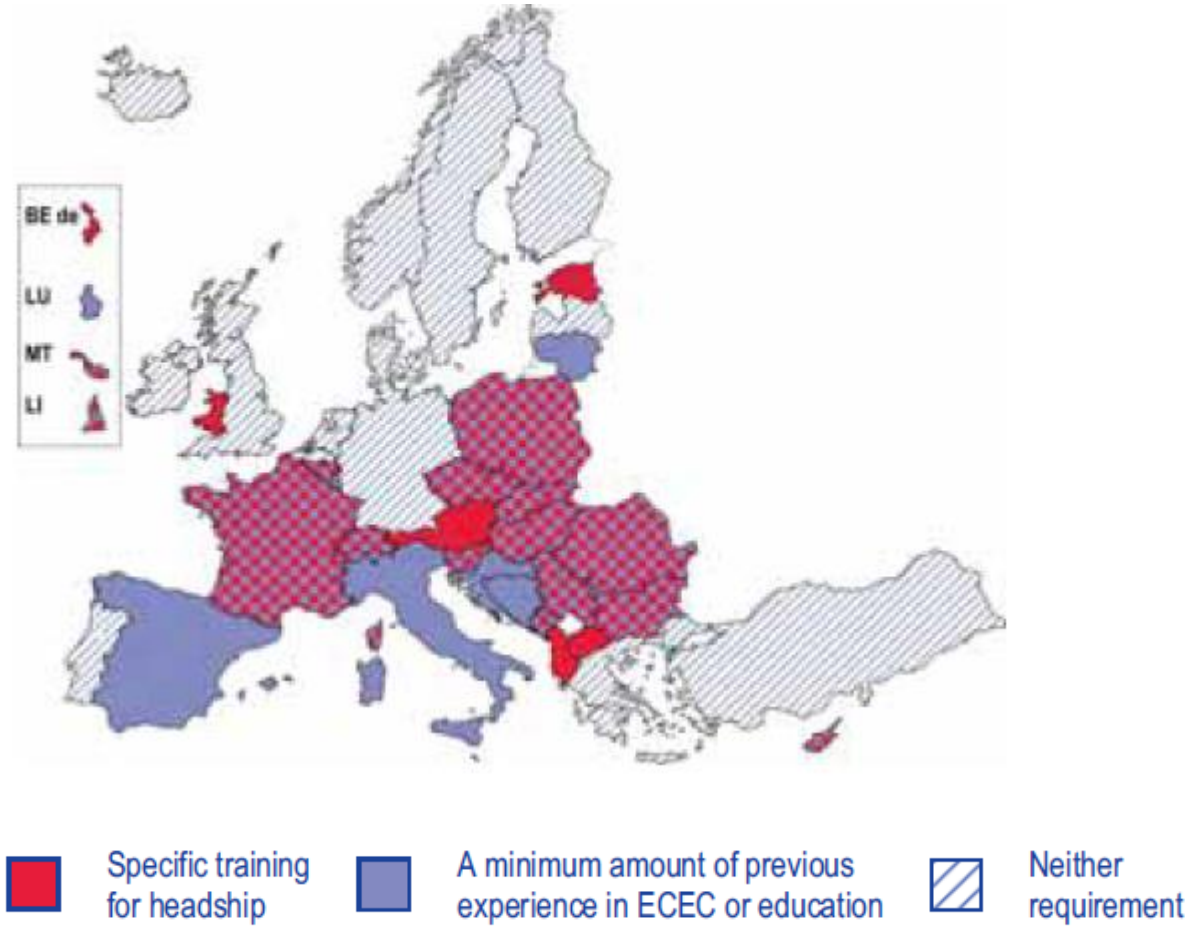


Figure 7: Additional requirements for ECEC head teachers, for children 3-years old and older.



As before, Serbia is in step with much of Europe regarding the minimum educational qualifications of ECEC head teachers. Serbia is ahead of many other European countries regarding additional qualifications required for ECEC head teachers, as both specific training and a minimum amount of previous experience in education are requirement.

Continuing professional development (CPD) is mandatory for all ECEC staff in only five educational systems: Luxembourg, Romania, Slovenia, Scotland, and Serbia. Of these, Serbia has among the highest requirement: 64 hours per year. This is second only to Romania, which requires 90 hours per year for ECEC teachers of children younger than 3-years old. The second highest is Switzerland (60 hours per year), followed by Malta (40 hours per year) – both of which are for ECEC teachers of children older than 3-years old.

3.2.2 Process indicators

Process indicators focus on the quality of educational activities, and such indicators are typically qualitative. They may focus on, for example, an assessment of the quality of teaching based on the professional judgement of the assessor with reference to the expectations set by or national curriculum or framework. Due to the qualitative nature of these indicators, cross-country comparisons are difficult.

In most European countries, assessors will consider (Eurydice, 2019: 101):

1. Opportunities for free and/or structured play (37 of 38 countries[7]);
2. Prevalence of adults listening to children play and encouraging their thinking (33 of 38 countries);
3. The balance between adult- and child-initiated activities (35 of 38 countries);
4. The balance between group and individual learning (35 of 38 countries);
5. Family involvement in children's learning (32 of 38 countries).

In Serbia, all 5 of these indicators are considered. Some countries stipulate a minimum time for outdoor activities (13 of 38 countries), as well as the desirability of ICT-based activities (20 of 38 countries). Neither of these are considered in Serbia.

In most countries (25 of 38 countries), parents' perspectives are included as part of the evaluation of an ECEC centre. In most of these countries, parents participate in internal evaluations (i.e. self-administered) of the school, although an external evaluation may require that parents have participated in such an internal evaluation. In a few countries, parents' perspectives are included in external evaluations: Montenegro, UK (Scotland), Malta, Portugal, Albania, the Netherlands and Romania. This may be through a standardised questionnaire.

3.3 Home-based ECEC

Home-based ECEC is offered in most European countries (28 of 38 countries), although not in Serbia or many of its neighbours (see Figure 8 below). However, family nurseries are a

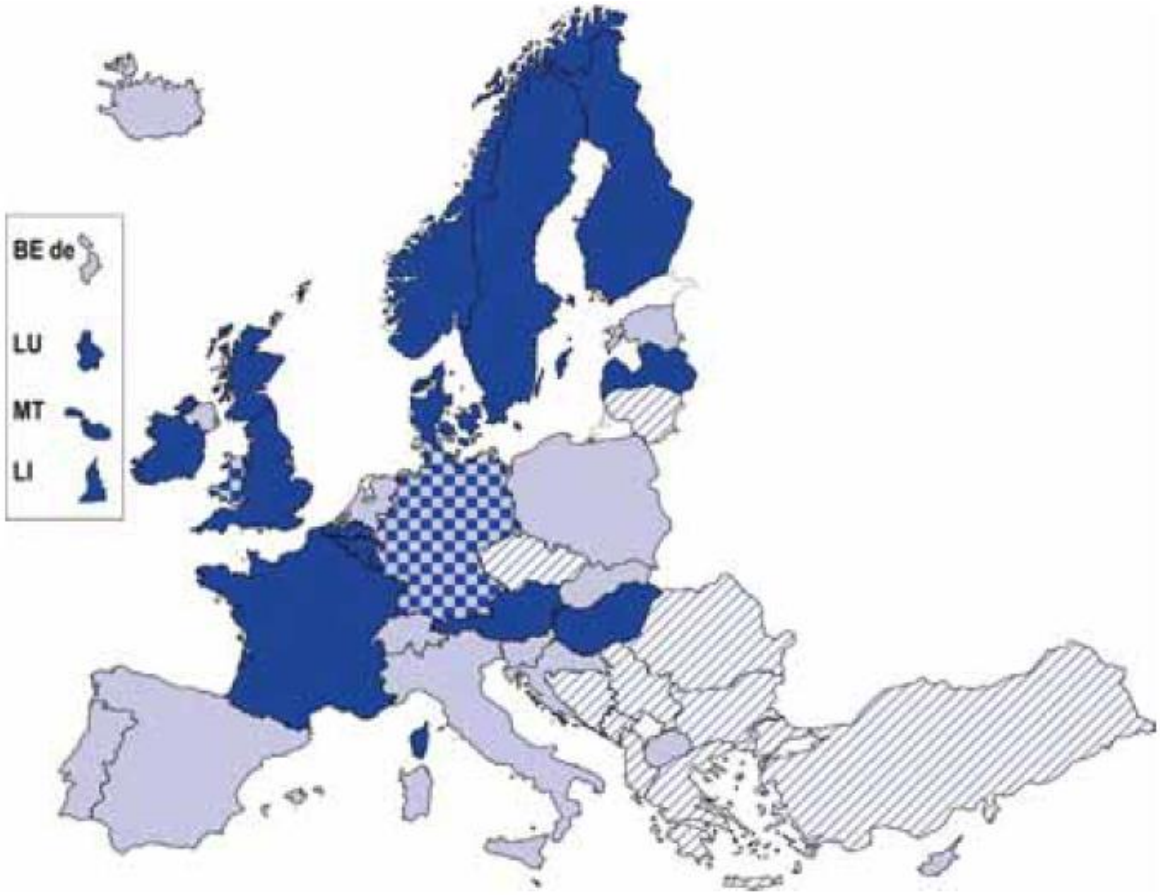
[7] These include the 28 countries in the EU, as well as 10 countries that are either in the EEA or are candidate countries.

significant part of ECEC services in only a few European countries: Belgium, Denmark, France, Germany, the Netherlands, Finland, UK, Switzerland, and Iceland). In France, younger children are with childminders rather than in preschools (Eurydice. 2019: 11).

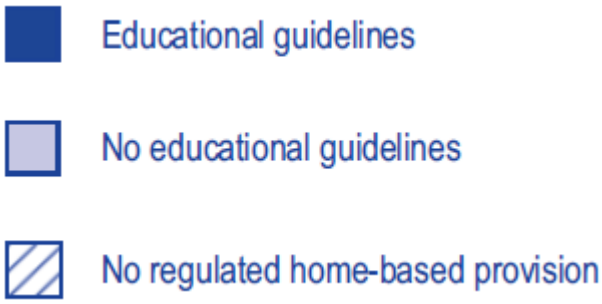
Three quarters of European countries regulate home-based ECEC, and require family nurseries to meet certain rules and standards (Eurydice, 2019: 79). Most countries that offer home-based ECEC restrict the maximum number of children to between 4 and 6, although a few countries allow only 3 (Slovakia and the UK minus Scotland).

Figure 8 indicates the prevalence of educational guidelines for home-based ECEC in Europe. Most countries do not have educational guidelines[8].

Figure 8: Educational guidelines for home-based ECEC

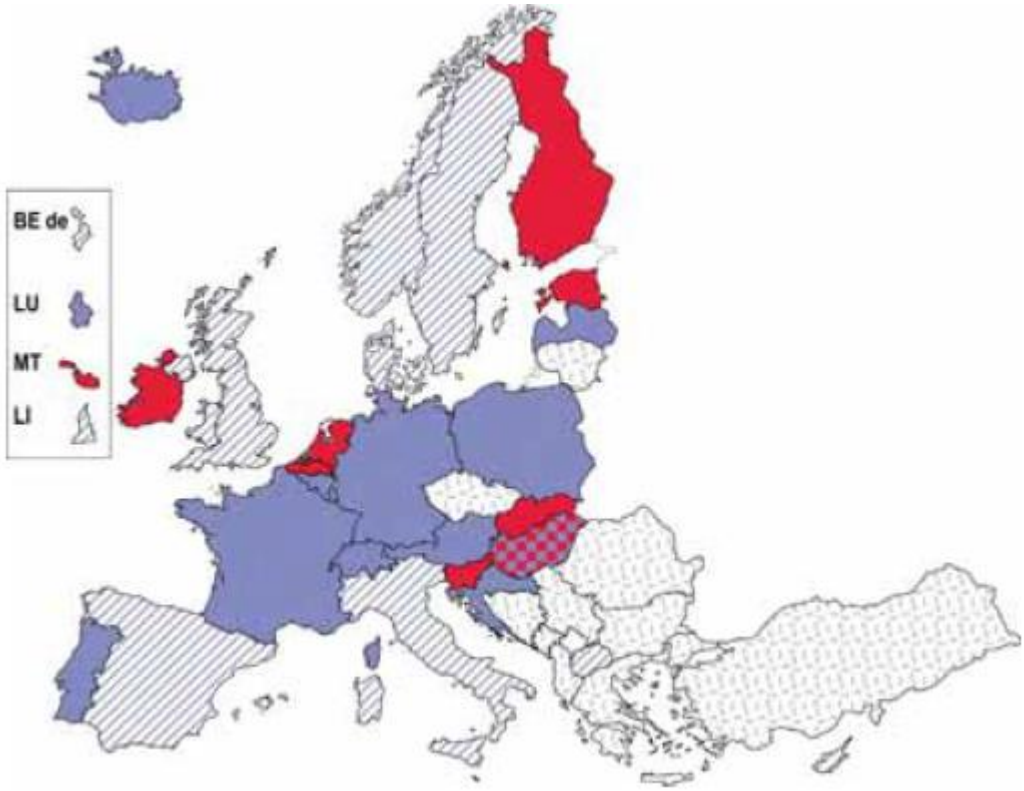


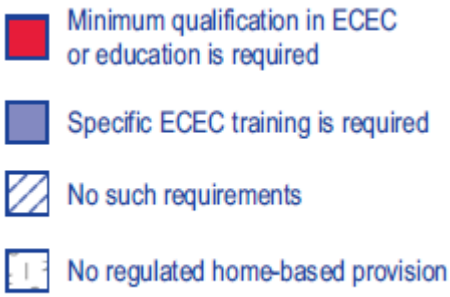
[8] In Germany, in varies between Lander.



Only 20 European countries require childminders to have either specific training or an ECEC qualification; and in only Hungary are both required. This is represented in Figure 9.

Figure 9: Qualification and training requirements for home-based ECEC provision





The amount of specific training required varifies considerably between country. The highest requirements are in the French Community of Belgium (1,053 hours mininum) and Portgual (800 hours mininum), while other countries vary between 100 – 400 hours mininum. The lowest is Latvia, which requires only 40 hours. Latvia has been included as a case study in Section 4.

3.4 Conclusion

In brief, Serbia is aligned with other European countries on most key indicators. These include teacher qualifications, class sizes, and qualitative considerations of quality pedagogy. Serbia has stronger requirements than most of European countries for requirements for head teachers of ECEC, and the amount of continuing professional development (CPD) required of ECEC teachers. However, Serbia is in a large minority of countries (including most of its neighbours) in lacking regulated home-based ECEC provision.

4 Country case studies

In this section, we will reflect on six case studies of PPPs in preschool education in Europe. These are in Austria, Slovenia, Latvia, Norway, and Finland. The choice of countries was motivated first, by the proximity of the countries to Serbia and/or a shared historical background (Austria, Slovenia and Latvia). Second, we selected countries which are known to provide high quality and equitable preschool education (Norway and Finland). The availability of the literature for these specific countries was considered to be an advantage. Latvia was particularly useful case study in this regard, given its recent experimentation with vouchers for private childminders. We consider each of these against the features of interest outlined in the Terms of Reference, which we divided into three categories:

- **Contractual relationship** (i.e. selection process for private school operators, the duration of contract, the termination process, governance and management arrangements, funding arrangements, regulation of profit, systems of accountability, and ownership of premises);
- **Service delivery** (i.e. teacher recruitment, curriculum flexibility, quality targets, measurement and quality assurance); and
- **Equity** (i.e. target beneficiaries, and measures taken to ensure the participation of poor and/or marginalised families).

In Annex B, we have mapped out each case study against these features.

4.1 Austria[9]

Austria's federalist system of government devolves considerable power to each *bundesländer* ("federation state"), which are responsible for the legislation and enforcement of preschool education. Consequently, there can be considerable variation between each state, such as in terms of working hours, costs, and fees. However, in general, the PPP arrangement is that of a subsidy towards the operating costs of registered private providers.

[9] Unless otherwise indicated, this case study is based on EACEA (2019a).

Preschool is compulsory for children between the ages of 5- and 6-years old, and it is the provinces' responsibility to provide this access (Schreyer and Oberhuemer, 2017a). In 2014, preschool was financed mainly by public funds (federal, provincial, and municipal level) reaching a share of 85.4%, and the rest were contributions from private households (12.1%) and private entities (2.5%) such as associations, and independent sponsors of preschool (Schreyer and Oberhuemer, 2017a).

Austria has a developed private sector providing preschool education. About 40% of preschool institutions are run privately. Most of them are organised and maintained by private associations (60.9%) followed by church organizations (28.3%), while the remainder are private preschools run by companies and private individuals. However, the regulations applicable to private providers vary between each *bundesländer,* and there is limited information available in English on these regulations.

4.1.1 Contractual relationship

Private preschools are required to register with the provincial government once they meet certain requirements (described below), and thus the selection process for private providers is responsive rather than pro-active. Provided that the school meets the standards described below, the provincial government will provide subsidies to private providers, specifically towards the salaries of pedagogical and care staff.

The provincial government is responsible for monitoring each preschool through a 'kindergarten inspectorate' and may revoke the subsidy if a provider no longer meets the expected standards. Although it may vary between provinces, 'as a rule' for-profit providers (as distinct from other non-profit private providers) do not receive any financial support from the state (OECD, 2006).

Most publicly-subsidised preschools will collect fees from parents, which vary according to state and location. In some instances, income level will be taken into consideration, but this is not applied uniformly.

4.1.2 Service delivery

The private provider is required to meet certain standards pertaining to educational inputs, specifically regarding the size of the premises and available equipment, class sizes, teacher-to-child ratios, and the qualifications of practitioners. These requirements are defined by each *bundesländer* (Oberhuemer, Schreyer, & Neuman, 2010), although an overarching statement of values has been agreed by all *bundesländer* (i.e. the '*Bildungsrahmenplan*').

Private providers are responsible for the recruitment and management of their staff, provided they meet certain qualification standards. These inputs are monitored during visits from the kindergarten inspectorate, but the nature and methodology of these visits varies between *bundesländer* (EACEA, 2019b: 127). All preschool providers must follow national education guidelines. (EACEA, 2019b: 186)

4.1.3 Equity

All children from the age of 5-years old must attend a preschool free of charge, and this applies to both public and private providers. However, fees may be charged for children younger than five-years old. Both private and public preschool are thus heavily subsidised by the state, since neither are able to charge fees for children five-years and older and thus receiving their funding for such children wholly from government.

4.2 Slovenia[10]

In Slovenia, the central government is responsible for the legislation and regulations of early childhood development, and for defining the national curricular framework for early childhood education. Conversely, municipalities have the responsibility to provide sufficient places and to implement the curriculum in line with local needs. Like Austria, Slovenia provides subsidies to private providers, although in some instances (described below) municipalities will enter into an agreement more closely resembling a private management arrangement.

Preschool is mainly provided by public institutions, but private preschool exists and can be funded by the municipality under certain conditions. The share of children enrolled in public

[10] Unless otherwise indicated, this case study is based on EACEA (2018a).

preschool education amounted to 95% in 2015 while the remaining 5% attended private preschool institutions (Schreyer and Oberhuemer, 2017b). In 2016/17, there were only 95 private kindergartens to 852 public kindergartens. The enrolment rate for 0 to 3-year-olds was 37.6% and for age group 3 to 6 years the enrolment rate stood at 88% in 2015 (Schreyer and Oberhuemer, 2017b).

All children older than 11-months have the right to a place in preschool until the start of school (although not necessarily for free). In areas where the population is decreasing significantly, however, preschool may offer half-day programmes of preschool education. Parents are required to pay between 0% and 80% of the full programme price[11] at public preschools, depending on their financial situation as determined by a social work centre on the basis of a national scale. Fees are reduced for the second child attending preschool, and are waived for subsequent children, for families with more than one child.

4.2.1 Contractual relationship

There are two avenues that private providers may pursue to partner with the state. The first avenue is to register with the Ministry of Education, Science, and Sport, and operate as a regular private preschool once they meet the necessary conditions. The amount of funding from the government awarded for each child is based on 85% of the cost of the same programme offered at a nearby public preschool, minus the cost that parents would have had to pay at the public preschool. In other words, the amount of funding that the government provides to private providers is 85% of the cost to the municipality of the same programme offered at a nearby public preschool. In this arrangement, the private provider retains ownership and responsibility for their premises.

The second is for a private provider to be awarded a concession, which will happen when there is demand for preschool within a particular area but no public preschool available[12]. In this arrangement, the municipality will tender the concession publicly and support the selected private provider to deliver their services as if they were a public preschool. Like a public preschool, the private preschool is required to prepare a budget for their programmes which

[11] This does not apply to parents who are not residents in Slovenia – such parents are required to pay full fees.
[12] The regulation applicable to concessions for preschool are stipulated in the Organisation and Financing of Education Act (1996).

is then approved by the Municipality Council. The preschool must then submit financing requests to the municipality every month for the reimbursement of expenses. In this arrangement, the private provider may additionally receive funding from the municipality for real estate and equipment.

In either scenario, the municipal government is responsible for managing the compliance of the private provider.

4.2.2 Service delivery

All preschools must meet certain requirements concerning educational inputs, such as the number of children and staff qualifications. In addition, all preschools are required to provide access to all children. Private preschools are responsible for the recruitment and management of teachers, provided they meet the necessary requirements.

Private preschools registered with the municipality (i.e. those without concessions) are able to offer either the national curriculum, or an internationally recognised and accredited programme (such as Steiner or Montessori), or otherwise may develop their own programme with approval from the *Council of Experts of the Republic of Slovenia for General Education*. Concession preschools are required to deliver the national curriculum.

4.2.3 Equity

Although most municipalities are able to offer enough places to meet demand, there are instances of excess demand in larger cities and surroundings. In these cases, a special commission prioritizes who gets admitted by awarding points to the applicants – such that those children with special needs and/or those from vulnerable families receive the highest priority. Preschool is fully subsidized for children whose parents are in the lowest income bracket. The costs of preschool are partly subsidized by the municipality, and the level of parental contributions depend on the municipality and are income related. Roma children usually go to a preschool in close vicinity of their settlement, or otherwise they receive fully subsidised transport to the closest preschool.

4.3 Latvia[13]

Like other Eastern European countries, Latvia has had historically high rates of female participation in the labour force. In Latvia, most women work in full time jobs and, unlike other countries in the European Union, there are not many part-time jobs available. It is common for both parents to have returned to work when the child turns 1.5 years old. Hence there is a high demand for early childcare provision (Ivanovs and Korpa, 2015). Preschool education has been compulsory for 5 and 6-year-old children since 2002.

The Education Law from 2011 established that local governments were responsible for ensuring that all children aged between 1.5 - 5 years within their administrative territory had access to preschool. This may be through public preschools, but if space is unavailable then municipalities are required to partly fund a child's attendance at a private preschool (OECD, 2016: 70).

In light of a shortage of spaces in public preschools, there have been two notable policy initiatives to expand access in Latvia – a voucher system for private preschools, and a voucher system for private childminders. There has also been an experiment on the use of flexible childminder services for employees with non-flexible working hours, reported separately at the end of this section.

Preschool vouchers

The Latvian Government undertook a pilot in the use of school vouchers in 2013. In the school year 2011/2012 there were 91,000 children enrolled in preschool institutions out of a total of 145,700 children who were younger than seven-years old. At the end of 2012, 7,900 children were on the waiting list for public preschool institutions (Ivanovs and Korpa, 2015). There was some supply of early childcare places from the private sector and the municipalities were paying a subsidy for this service, but the prices were still perceived as high and this was not an affordable option for many parents. Given excess demand for childcare services, a large number of unregistered providers of childcare services emerged and in most cases these were nurses who provided their services informally without employment contracts.

[13] Unless otherwise indicated, this case study is based on EACEA (2018b).

In response, the government undertook a pilot to reduce waiting lists by subsidising the cost of private provision through a voucher system, while simultaneously regulating private providers. The pilot was successful in reducing waiting lists, and 8,347 families had received €8.8 million in state support by 2014 (Ivanovs and Korpa, 2015). The programme was continued in 2016, after which the financing of the private services was transferred fully from the central government to the municipalities. Only a few municipalities continue with the programme today, and these are chiefly those with long waiting lists for preschool. Other than this, private preschools do not receive additional subsidies from government.

4.3.1 Contractual relationship (Preschools)

In locations in which government is unable to meet demand, the state can provide funding to private providers. These providers were required to be registered with the Education Register (if they are preschools) or the Child Supervision Service Providers Register (if they were individual child-minders). Private preschools are required to sign an agreement with local government. At the end of each month, these private providers will report on the number of parents who enrolled using vouchers. Although for-profit institutions are free to set fees, the value of the voucher is fixed by local government. Premises and facilities are the responsibility of the private provider.

Local government is responsible for the monitoring and management of the contract. The OECD has raised concerns about the capacity of some of the smaller municipalities to effectively do so (OECD. 2016: 80). There is no central agency that is otherwise responsible for quality assurance in preschool.

4.3.2 Service delivery (Preschools)

Latvia has defined a “Model Programme for Pre-school Education” (2012), which sets out lesson plans and curriculum guidelines. All preschools are required to use the national curriculum guidelines, but they may develop their own curricula if it is within this framework (OECD, 2016: 72). The curriculum guidelines broadly outline the competencies each child is expected to achieve, but there is no national system for monitoring these competencies.

Each municipality has a Board of Education, which is responsible for (among other duties) the establishment and regulation of preschools. Each board can develop their own regulations for

preschools, which means that these differ considerably between municipalities (OECD, 2016: 69). Central regulations were abolished in 2009 to reduce bureaucratic obstacles (OECD, 2016: 77). However, there do seem to be some regulations for teachers' ongoing learning. According to government regulations, a teacher is expected to participate in a professional development programme for at least 36 hours every 3 years. In addition, principals of preschools are required to have at least a minimum number of years of both pedagogical and administrative experience.

Private providers are able to recruit staff at their discretion, provided they meet the standards prescribed by government. As part of the 2011 reform, the provision of child-minder services was also regulated by law.

4.3.3 Equity (Preschools)

The municipality is responsible for providing specialised support to children with special learning needs (OECD, 2016: 80). Although families typically pay for meals at the ECEC, these are offered at a reduced rate for low-income families, and free meals are provided to children from very poor families attending ECEC (OECD, 2016: 82). It is unclear whether subsidised and free meals are provided for low-income families in private institutions participating in the voucher programme. According to the OECD (2016: 83), "these various policy initiatives, although not always coordinated or implemented in a coherent manner, seem to have contributed to mitigating the effects of socio-economic disadvantage".

Child-minders[14]

Alongside the above policy initiative, the Ministry of Welfare extended support to 'child-minders' (sometimes referred to as 'nannies'). According to the OECD (2016: 87), "if [a] child does not get a place at an ECEC institution financed by the municipality, parents can entrust child care to a child-minder" registered with the state, who will then receive a public subsidy. There has apparently been a strong demand for the programme from both parents and

[14] In addition to Ivanos and Korpa (2015), this section was supplemented by an interview with Maksims Ivanos (11 September 2020) who was responsible for the development of the voucher and childminder initiative.

childminders, and there are currently more than 2000 childminders registered in Riga. Table 7 summarises a recent study conducted on this programme.

4.3.4 Contractual relationship (Childminders)

To join the program, childminders have to apply to the Childminders' Registry, and in doing so would need to demonstrate that they meet certain requirements. This includes certification (described below), as well as their premises meeting certain fire and safety requirements, agreement to accept regular health inspections, and holding a license for providing food.

To access the voucher, parents sign a contract with both the childminder and the municipality. The voucher is paid directly to the childminder, although this is expected to be 'topped up' with an additional payment from the parent if required. The size of the monthly subsidy is €150 paid from the national government, and €180 paid from the municipality. It is expected that parents will pay approximately €70 so that the childminder receives €400 per month.

In order to qualify for the voucher, at least one parent needs to be employed, but this can be either full-time or part-time. In addition, the contract for the service with the childminder must be full-time, i.e. 5 days a week, for 8-hours each day.

The municipality is responsible for monitoring compliance and quality. This is especially difficult to do proactively with childminders, given they are more widely dispersed. Municipalities primarily monitor childminders by responding to complaints from parents. It is thus possible for childminders and parents to collude and split the subsidy between themselves, but this is not believed to be a common practice.

4.3.5 Service delivery (Childminders)

Completion of a 40-hour professional education programme is required to be a child-minder, unless one has already received secondary or tertiary pedagogical education (OECD, 2016: 79). This programme was especially developed in response to the policy; the government provided a framework for what this programme would need to entail, and this was then developed into a qualification by local training institutions.

Childminders are permitted to supervise up to 3 children at a time. There do not seem to be any other requirements in terms of pedagogy.

4.3.6 Equity (Childminders)

There do not seem to be any additional equity considerations for this initiative.

Table 7: Study on the provision of childcare services for employees with non-standard working hours

Between 2015 and 2018, Latvia undertook an EU-funded pilot for the provision of childcare for employees with non-standard working hours. Notably, the purpose of this programme was not to improve access to ECD – rather, it focused on "reconciling work and family life", in line with EU expectations. As such, the outcomes of the evaluation did not focus on improvements in child development or access, but rather employee and employer satisfaction.

Approximately 150 companies, with employees that work non-standard working hours, took part in the study, which included both a treatment and control group. Childcare services were contracted through a public procurement process; 181 service providers were contracted, 92% of which were individual babysitters. For each company, the pilot progressed through 3 phases – in the first phase, childcare services were paid for wholly by the study, and in the second and third phase this reduced to 80% and 60% respectively (with the company co-financing the remainder).

The design of the study is somewhat unclear, and thus the results should be interpreted with caution. Chiefly, it is unclear how participants were divided into treatment and control groups, and it seems that there was a significant difference in children's age between the two groups. Nonetheless, the study reported that employees in the treatment group had improved satisfaction with working conditions, and that employers and state institutions had a better understanding of the importance of childcare. The study also found that childcare service providers improved their qualifications. Despite what was hypothesized, the evaluation did not find evidence to support an increase in productivity or reduced staff turnover.

Crucially, the degree to which employers would be likely to continue co-financing the service was unclear. Employers' concerns included believing that childcare was the responsibility of the employee, demonstrating preferential treatment for some employees (i.e. those with young children) over others, affordability, and the cumbersome process of contracting service providers.

4.4 Norway[15]

Preschool is not compulsory in Norway, but children are entitled to a place in a preschool after their first birthday. The local municipality is responsible for assigning a place, and for ensuring that there are enough places to meet demand. Nationally, Norway operates a per-child subsidy for both private and public providers.

In Norway, the public private partnership was formally established in 1975, prior to which the provision of preschool was privately provided (Haug, 2014). As part of the ECEC Act of 1975, the responsibility for financing, developing, and controlling preschool institutions was transferred to the municipalities, but they had to work in close partnership with private providers. Although preschools can be financed from both municipal subsidies and parental fees, approximately 85% of this funding comes from municipalities (with public and private preschools receiving approximately equal amounts of public funding). As of 2009, all children had a statutory right to preschool. A national curriculum for ECEC was developed and this constitutes a binding framework for the planning, implementation, and assessment of the activities for all institutions. In 2014, 48% of all children enrolled in preschool were attending a private institution.

4.4.1 Contractual relationship

Municipalities are obliged to provide subsidies to private preschools established before 2011 to cover operational expenses, but they can decide whether to support preschools established after that date. The municipality is responsible for the monitoring of preschools, and they can terminate or withhold their financial support to a private provider if they fail to meet the necessary standards. Moreover, the municipality can demand repayment of the grant in circumstances of severe underperformance.

The subsidy is based on a rate per-child, which is calculated based on the average operating cost per child in public preschools in the municipality. There is a maximum fee that applies to both private and public preschools, which is set by parliament in the annual budget.

[15] Unless otherwise indicated, this case study is based on EACEA (2018c)

Preschools are nonetheless permitted to make a 'reasonable net profit'. The private provider is responsible for the ownership and maintenance of their premises.

4.4.2 Service delivery

Both public and private preschools are required to follow the same standards regarding educational inputs (such as teacher-child ratios, staff qualifications, and the size of their premises), and follow the national curriculum (although they may develop their own annual plan of education activities within that curriculum). Private preschools are nonetheless able to hire and manage their staff, provided they have the required qualifications.

4.4.3 Equity

As described above, there is a maximum limit to the fees that can be charged to parents. This fee may also not exceed 6% of a families' income. In addition, socio-economically disadvantaged children are given priority in admission to both public and private preschools. The municipality is responsible for offering at least 20 hours per week of preschool for free for children aged 3 years and older from low-income families (the income limit of which is set by parliament each year). Furthermore, low-income parents receive financial support in order to pay for any fees for further preschool provision. Municipalities receive additional funding if they have greater numbers of children as well as families on social support, or longer travelling distances between families and schools, and lower levels of parental education. Nonetheless, the OECD (2015: 12) notes that "challenges persist in rendering kindergarten more attractive for minority language and low-income families and ensuring that there is an even supply of places across the country and at all times."

4.5 Finland[16]

All children in Finland have had the right to publicly subsidized preschool education, although since 2016 the extent of the subsidy varies with the age of the child and the employment status of the parents. While families are currently entitled to at least half a day of free preschool education, according to Eurydice (2020) this will be extended to full entitlement in August 2020

[16] Unless otherwise indicated, this case study is based on EACEA (2020)

for all families. It is unclear what effect this will have on subsidies for private preschools. This section is written based on the mode of preschool education provided between 2016 and 2020.

ECEC provision and pedagogy are regulated by national legislation, while municipalities have a statutory responsibility for ECEC provision (Ruutiainen et al., 2019: 34). Specifically, municipalities are responsible for the provision of day care and the costs are shared between the national government, the local government, and parents (Viitanen, 2007). As present, municipalities must provide 20-hours of pre-primary education per week for all children between the ages of 6- and 7-years old living in the municipality, or a full-time provision if both parents work or study full-time, or if it is otherwise "considered to be in the child's best interest" (Eurydice, 2020). This is free for families, including the provision of a meal. However, families may be required to pay fees for preschool education in excess of 20-hours per week. Municipalities are also required to offer children free transportation if they live further than 5km from the nearest preschool or if the route is otherwise dangerous.

Fees for families are income-tested. Typically, preschool fees cover about 14% of the municipalities' costs for providing preschool education (Ruutiainen et al., 2019: 34).

If a municipality cannot meet the demand for ECEC using the existing public institutions, it can purchase the services. It is the responsibility of the municipality to decide whether to do so through a voucher system, or through the provision of a subsidy to private preschools directly.

In 1995, Finland undertook a pilot of a voucher programme for preschool (Viitanen, 2007). This was adopted nationally as an option for municipalities (in addition to providing subsidies directly to providers) in 1997, and guidelines for the voucher system were laid down in legislation in 2009 (Ruutianinen et al., 2019: 4). Prior to 1995 the provision of ECEC was largely provided by public institutions and there were significant imbalances in ECEC provision: some municipalities recorded an excess demand while others recorded excess supply. The private sector now accounts for 17% of all preschool provision, up from between 6%-11% in 2000 (Sakkinen and Kuoppala, 2017). The profile of publicly subsidised privately run preschools has also changed, from "local for-profit entrepreneurs and non-profit agents" to a growing number of "large national and multinational for-profit companies" providing services in multiple municipalities (Ruuitainen et al., 2019: 33). In 2016, the voucher was granted to 7.5% of children attending pre-school.

4.5.1 Contractual relationship

Private providers must receive a license from government to be eligible for public funding. The municipality has substantial discretion as to how to support private providers. They can do so either through a direct subsidy, or through providing parents with vouchers, and in doing so may enter into a contract with individual private providers. The municipality is responsible for managing the contract, and they may terminate the agreement and deregister the provider if the provider does not meet a satisfactory standard. There is no national system for monitoring these programmes, and this is the responsibility of the municipality and provincial state agencies (Kumpulainen, 2018). Private providers of preschool education are allowed to earn a profit, unlike private providers of other levels of education in Finland.

The value of the voucher is determined by the municipality. This is guided by national legislation; vouchers are usually income-tested, and must be “reasonable” for families, which in practice means on par with what parents would pay to send their children to a public preschool (Ruutiainen et al., 2019: 35).

4.5.2 Service delivery

Preschools are required to provide inputs specified by law, such as certain staff qualifications and teacher-child ratios. These are comparatively high: one in three staff members in a preschool must have a higher education degree; the minimum requirement for a kindergarten teacher is a Bachelor’s level degree, while other personnel may have at least a vocational upper-secondary qualification. Moreover, private preschools are required to provide a standard of service at least equivalent to municipal services. Prior to being licensed, the premises of a private provider will be inspected to ensure they are “healthy, safe, appropriate, and accessible”, and in doing so the municipality may draw on expertise from health authorities (Early Childhood Education Act 2018).

The use of the national curriculum guidelines is mandatory for both public and private providers, but curriculum activities within those guidelines may be developed locally. Private providers are responsible for recruiting staff, provided that those staff meet the requisite standards.

4.5.3 Equity

As mentioned above, all children in Finland have had the right to publicly subsidized preschool education, although the level of this subsidy varies. Four-hours of pre-primary education per day for children of six-years old is free for families, while families may be required to pay a fee for services offered beyond 4-hours per day. For earlier preschool education, there is a maximum limit to the fees that can be charged to parents. Fees will also be determined by income, the size of the family, and the discretion of the municipality. The fee is expected to cover the cost of meals, and families with low incomes are except from fees. Transport is provided for free for children who live further than five kilometres away from their preschool (Kumpulainen, 2018). In the case of vouchers, the value of the voucher typically varies according to family income.

4.6 Conclusion

Although there is considerable variation between each case study, several trends are nonetheless apparent:

- In almost all case studies, the state partners with the private sector through either voucher or subsidy programmes. Slovenia is the exception; they predominately use a subsidy system, but they also have a marginal number of concession schools.
- Across almost all case studies (except for Austria), the governance of private providers is devolved to a local government level.
- Private providers are uniformly responsible for recruiting and managing their staff, provided they meet the specified qualification standards.
- Private providers either have to use the national curriculum, or they have to submit their curriculum to the state for approval.
- Quality is defined by government regulations and is determined by educational inputs, such as class sizes and staff qualifications, rather than outcomes.
- In almost all cases (with the exception of concession schools in Slovenia), private providers own the premises and are responsible for their maintenance.

- The funding arrangement varies considerably, as do regulations about whether private providers may earn a profit.
- Provisions for equity also vary considerably, but in most instances vulnerable and marginalised children (such as those with disabilities, or from poor families) are given priority. This priority may be in admission if the number of spaces available is otherwise limited, or additional funding – either through a comparatively larger voucher for vulnerable and marginalised families or more funding for poorer municipalities.

However, it is important to note that the evidence available for these case studies is limited. In the absence of experimental data on the effectiveness of any of these initiatives, it is difficult to draw conclusions about 'best practice' or critical success factors. Moreover, these case studies included only one instance for PPPs specific to childminders, and this is insufficient to support generalised conclusions.

5 Governance of PPP and preschool provision in Serbia

In this section, we consider the current legal and regulatory context for PPP for preschools in Serbia. Broadly, this includes regulations relevant to preschools, private preschool providers, and public-private partnerships. In brief, there are few regulations specifically governing the use of public-private partnerships in preschools. For the most part, private preschools are subject to the same requirements as public preschools, and LSGs have considerable autonomy in how they support private preschools. The calculation of 'economic cost', which determines the value of the vouchers for preschools, is also an important regulatory feature.

We begin with an overview of the governance of preschools. We first outline the policies, laws, and bylaws considered for this analysis (4.1), and provide an overview of the governance of preschools in Serbia (4.2). We then consider the regulations relevant to private preschools, as well as any differences in regulations between public and private preschools (4.3). We comment on the regulations relevant to preschool PPP arrangements in particular (4.4). Finally, we reflect on the calculation of the economic cost of preschool (4.5).

The full analysis of each relevant policy, law, and bylaw is available in Serbian in Annex C. This provides the baseline for our analysis in Section 10 on what regulatory reform would be necessary to accommodate each PPP modality.

5.1 Policies, laws, and bylaws reviewed

The following materials were reviewed in our analysis of the relevant policy and regulatory environment.

Table 8: List of regulatory documents reviewed

Policies
• Strategy of development of education in Serbia 2020; • Program of economic reforms for period 2018-2020; • Strategy for social inclusion of Roma men and women in the Republic of Serbia for the period from 2016 to 2025;
Laws

- Law on foundations of the system of education and upbringing;
- Law on preschool upbringing and education;
- Law on local self-government;
- Law on public-private partnership;
- Law on financial support for families with children;
- Law on Procurement;
- Law on Public Property.

Bylaws

- Regulation on the criteria for adoption of the public preschool education network act and the public primary school network act;
- Rulebook on closer conditions for establishment, starting and performance of preschool establishments;
- Rulebook on the criteria for establishing the economic price of educational programs in preschool institutions;
- Rulebook on the basics of preschool education program;
- Rulebook on closer conditions for determination of priority enrolment to preschool institutions;
- Rulebook on closer conditions and methods of care and preventive health care for children in preschool institutions;
- Rulebook on closer conditions and method of implementing children's nutrition in preschool institutions;
- Rulebook on closer conditions for realization of preschool preparation program;
- Rulebook on criteria for determining a smaller or larger number of children than the number enrolled in the educational group;
- Rulebook on closer conditions and the manner of achieving social protection of children in a preschool institution;
- Rulebook on the special program of realization of educational work in appropriate health institutions;
- Regulation on the control of public-private partnership public contracts;
- Rulebook on closer conditions and method of substantiation of the right to financial support of the family with children;
- Decision on the right to reimbursement of part of the costs of children's stay in a preschool institution whose founder is another legal or natural person on the territory of the City of Belgrade for the working year 2019/2020.

5.2 Governance

Responsibility for preschool education in Serbia is divided between two levels of government – the Ministry of Education, Science and Technological Development (MoESTD) and Local Self-Governments (LSG).

- MoESTD is responsible for the system as a whole, and it regulates preschool programmes and services. This includes policies relating to quality, equity,

accreditation, and professional standards for teachers in both public and private preschools.

- LSGs are responsible for the executive of preschool policies, including the establishment of public preschools, and the provision and financing of preschool education.

Consequently, LSGs can exercise considerable autonomy in how they manage the provision of preschool education. While this enables a large degree of localised governance, it may also contribute to inequalities within and between municipalities.

The two main monitoring mechanisms for educational institutions (both public and private) are educational inspections and educational/pedagogical supervision.

- The educational inspectors are employed at different levels of government (at the Ministry, at the regional level, and at the LSG level), but regardless of their employer they have the same tasks to check whether and how regulations regarding inputs to preschool (such as teacher qualifications and the size of classrooms). The MoESTD has an annual plan of visits and inspections that all inspectors (regardless of the level at which they are employed) need to follow. Aside from these planned inspections, there are also unexpected inspections and inspectors are asked to visit preschools on an ad hoc basis, or if there is a need to check something specific in a preschool. There were in total 175 inspectors at all levels in the school year 2019/2020.[17] Interestingly, according to the rulebooks of the MoESTD, regional and local governments, there should be 251 inspectors, but only 175 positions are filled. The Annual inspection plan for 2019/2020 envisages that inspectors visit 222 preschool institutions, among which 140 are private preschool institutions.
- The pedagogical supervision is conducted by educational advisors who are employed at the regional offices of the MoESTD. Educational advisors visit both private and public preschool institutions and evaluate the work of the institution on the basis of quality standards and competency standards. The frequency of visits by

[17] Annual report on the work of the educational inspection for the school year 2019/2020, available at: http://www.mpn.gov.rs/prosveta/prosvetna-inspekcija/, accessed 16 December 2020.

educational advisors is defined in the annual workplan of the branch office of the MoESTD[18] and depends on the respective branch.

While educational inspection is regularly conducted in both public and private preschools, visits of educational advisors who oversee the quality of the program are rare or non-existent in private institutions.

Typically, municipalities will have only one public preschool, although this preschool may have a large number of facilities across multiple locations. In 2019, for example, 162 public preschools collectively operated across 2,426 preschool facilities.[19]

5.3 Regulations

To register as a preschool, both private and public preschool institutions must meet the same regulations (e.g. space, equipment, teaching aids, nutrition, and staff). The legal framework that governs the provision of preschool education does not differentiate between public and private institutions in terms of meeting prescribed standards and norms. This is with one exception: Private preschools are required to submit a bank guarantee that demonstrates that the institution has sufficient funds for one-year of operation in order to be registered. According to *Law on Foundations of System of Education and Upbringing,* preschools should receive a decision regarding their registration within 6-months. This was initially set as 3-months prior to 2017, but it was later increased as it took over in practice, in part due to a shortage of inspectors across the relevant departments. An overview of the registration process is provided in Box 1.

[18] Annual workplans are not publicly available on the website of the Ministry.
[19] PŠV dataset, Statistical office of the Republic of Serbia.

Box 1: Steps for registering a preschool in Serbia

1. Prospective preschools submit a request for verification to MoESTD; or, if in Vojvodina, to the provincial education authority;
2. Along with the application, preschools submit their articles of incorporation, and evidence that they fulfil the conditions to operate as a preschool. This includes (i) a curriculum, (ii) a bank guarantee, and (iii) police clearance if the founder is a natural person.
3. The prospective preschool must complete inspections from three authorities to meet educational, structural, and hygienic conditions. In addition to an inspection from the education authority, the preschool will be inspected by an authority from the Ministry of Interior's Sector for Emergency Situations (in order to meet fire regulations), as well as an authority from the Ministry of Health (in order to meet hygiene regulations).

When private providers apply to get verified at MoESTD, they need to submit a curriculum that they will follow. The curriculum gets examined as part of the verification process of the private preschool. According to the *Rulebook on the Basics of Preschool Education Program*, the new national curriculum framework is being gradually implemented in some LSGs from 1st September 2018, and it is planned to be used in all preschool institutions in all LSGs by 1st September 2022. This is inclusive of both private and public institutions.

Private providers are required to provide inputs specified by law, such as the size of rooms, adequate equipment, and certain staff qualifications. Private providers are free to hire preschool teachers and other teaching staff, but they need to meet the minimum requirements in terms of educational background. Both public and private preschools are subject to administrative supervision (educational inspectors from LSG and MoESTD), and professional and pedagogical supervision (educational advisors from regional offices of the MoESTD ('školska uprava')).

Families can choose whether to enrol their child into preschool, and, if so, which preschool institution in particular. If families enrol their child into a public preschool, then Article 13 of

the *Law on Preschool Education* grants priority in enrolment for children from vulnerable and marginalised groups. In contrast, private preschools are not under the same legal obligation.

5.3.1 Regulation on alternative modes of ECEC provision

Regulations in Serbia make few provisions for alternative modes of providing ECEC. The LPE states that:

> Preschool institutions, due to lack of space capacity or insufficient number of children needed to form an educational group, can realize a preschool program in a mobile kindergarten (purpose-equipped bus) for children aged four years before starting primary school, or by hiring a traveling educator. (Article 21).

The Rulebook further clarifies that that the goal of mobile kindergartens is to provide ECEC in contexts which lack an established preschool, that is should be provided at least twice a week, and that the beneficiaries should be preschool children older than four-years in groups smaller than 25 children. The mobile kindergarten is not a 'standalone' entity; rather, it is an activity that must be provided through an established preschool.

There is some regulative ambiguity about other modes of provision, due to amendments to the LPE. Article 19 of the 2010 LPE referred to special and specialised programmes, including family nurseries. The Rulebook recognises the purpose of the family nursery and itinerant teacher (i.e. a single mobile teacher, without a full mobile kindergarten such as a bus) as providing ECEC services in contexts without access to an established preschool. However, the amendment to the LPE in 2017 deleted Article 19, and thus removed any reference to the family nurseries and itinerant teachers (while retaining the aforementioned reference to mobile kindergartens in Article 21). The regulatory status of family nurseries and itinerant teachers is thus unclear. In any respect, the LPE 2017 would require any such service to be offered through an established and registered preschool institution rather than recognise family nurseries and itinerant teachers as 'standalone' entities. There is currently no mechanism for recognising family nurseries (unaffiliated to an established preschool) as accredited preschool institutions.

5.4 Regulations specific to PPPs

There are no clear regulations that govern the relationship between the LSG and private preschools. The Law of Preschool Education (2010) does not envision PPPs at all. More recently, the Law of the Foundations on Systems of Education and Upbringing (ZOSOV) refers to PPPs but does not provide any regulations on the use of such arrangements in the management and delivery of educational services (whether preschool, primary, or secondary school). ZOSOV does refer to the Law on Public-Private Partnership and the Law of Public Property, which consider the use of public property in PPP arrangements. However, these are applicable only to certain models of PPP (chiefly 'private management' arrangements, described in Section 2.2.3).

As a result, the lack of clarity in the regulations regarding PPPs provide individual LSGs with considerable discretion in how to approach private preschool institutions. This is apparent in Section 6, where different municipalities have substantially different policies towards private preschools. We return to this in our recommendations on regulatory reform in Section 9.

5.5 Financing of preschool

Preschool provision in Serbia is financed predominately by the LSG. The extent to which the provision of funds is divided between municipality, national government, and parents varies depending on the demographic of the child and level of preschool education.

- Typically, for non-compulsory preschool for the majority of children (i.e. those without disabilities or from poor families), municipalities contribute *up to* 80% of the 'economic price' per child (described below) while parents cover the remainder (Baucal et al., 2017).

- For compulsory preschool for all children, national government will fully subsidies the operational costs (including teachers' salaries) for the provision of 4-hours of preschool per day for 9-months of the year, while any provision beyond this is covered by the same provisions as above.

- For children without parental care, with disabilities, in hospital treatment, and/or from households receiving financial social assistance, national government is responsibility for the full-financing of preschool provision for non-compulsory education (Articles 34

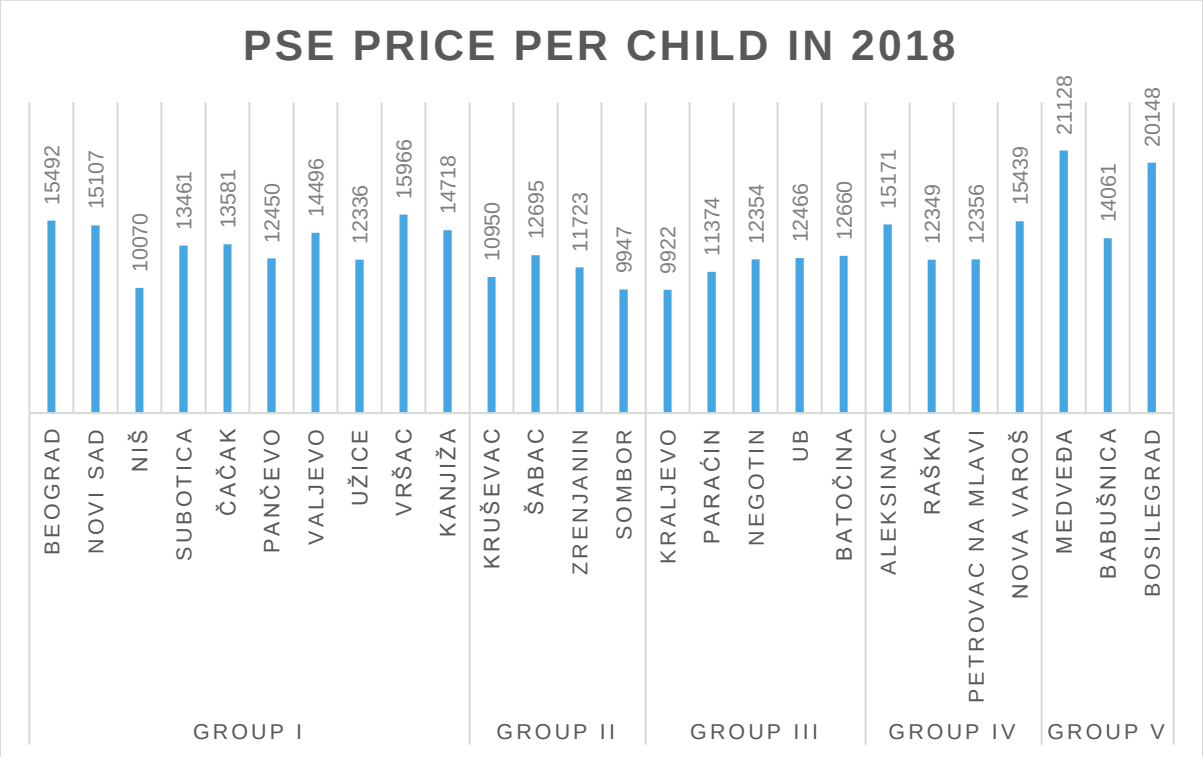
– 37 in Financial Support for Families with Children). Each LSG has the possibility to define other categories of “materially deprived” families and subsidize partially or fully the cost of their non-compulsory preschool provision.

The reliance on LSGs for the financing of much of preschool provisions a contributing factor to disparities in enrollment rates, since wealthier municipalities are able to provide greater resources for preschools (Baucal and Lebedinski, 2017). In addition, a change in legislation in 2018 revised LSGs responsibilities as being for the financing of *up to* 80% of the cost of provision (i.e. a maximum), rather than 80% as a minimum. Aggio et al. (2018) have registered their concern that this may lead to the under-funding of preschools, if LSGs direct their finances towards other priorities.

5.5.1 Economic cost of preschool

We calculate the monthly cost per enrolled pupil for preschool based on budget reports by each LSG. Figure 10, based on data from 26 LSGS, indicates that there is considerable variance in the stipulated value of the monthly cost per enrolled pupil. The average monthly cost per enrolled pupil based on budget reports ranges between RSD 11,000 in Group 2, RSD 12,000 in Group 3, RSD 14,000 in Groups 1 and 4, and 18,000 in Group 5 municipalities in 2018. When expressed in euros, this amounts to between EUR90 in Group 2 and EUR150 in Group 5 municipalities.

Figure 10: Cost per pupil by municipality for public sector, 2018 (in RSD)



Notes: Source: Financial reports of a selected number of LSGs and PŠV data.

This variation may be due to differences in actual costs, or it may reflect ambiguity in how the per pupil should be calculated. It is not clear why Group 5 municipalities according to budget data seem to have the highest monthly cost per enrolled pupil of preschool education, for example.

The per pupil cost for preschool education based on budget data can be contrasted to the "economic price per child" as defined by the by the Law on the Foundation of the Education System (2017), Article 189. The MoESTD prescribed a “Rulebook on criteria for determining the economic price of educational programs in preschool institutions”[20] to further regulate the criteria for determining the economic price. The Rulebook stipulates that the economic price of preschool education is expressed as a *cost per child* (daily or monthly). The rulebook

[20] Pravilnik o merilima za utvrđivanje ekonomske cene programa vaspitanja i obrazovanja u predškolskim ustanovama: https://www.pravno-informacioni-sistem.rs/SlGlasnikPortal/eli/rep/sgrs/ministarstva/pravilnik/2014/146/5/reg

specifies that the structure of the economic price consists of salaries and other expenses for employees (which are determined in accordance with the law and employment contract), and operating costs. Baucal et al. (2016) notes that while the standards for expenses for employees is detailed, the Rulebook does not provide standards for determining other operational costs. The initial construction and depreciation of facilities is not mentioned in the Rulebook, and whether this is included in the economic cost calculations is inconsistent between facilities.

The per pupil cost reflected in Figure 10 is distinct from the economic price calculated by the LSG. While the per pupil cost is based on the cost for providing preschool to all enrolled children given a certain level of attendance, the economic price is corrected so that it assumes that a child has full attendance. LSGs may vary what level of attendance they assume, as well as the cost per absent student.

6 Statistical analysis

This section is divided into two parts. In the first part, we report on an analysis of the available data on access to preschool (6.1.2), the prevalence of private providers (6.1.3), and quality (6.1.4). This includes a comparison of municipalities with and without the voucher system. In the second section, we investigate how this may change over the next ten years (6.2.2), and what the implications for this will be on the need for preschool provision in Serbia (6.2.3). This provides the basis of our overall analysis relating to equity, inclusion, availability, access, affordability, and inclusion in Section 8.

In each part, we first begin with a brief description of the methodology of the analysis, as well as its limitations (5.1.1 and 5.2.1). A detailed description of the methodology is available in Annex D.

6.1 Current context

6.1.1 Methodology

The analysis in this section is based primarily on PŠV data from the Statistical Office of the Republic of Serbia (SoRS), which collects data on several indicators from all registered preschool facilities each year. Consequently, there are several limitations in these data.

- These data are self-reported by parents and preschools[21]. A key disadvantage of this approach is that some of the requested data may not be of high quality, such as the employment status of parents, or whether parents are recipients of any financial benefits. While both public and private preschools are required by law[22] to collect socio-economic data on the parents, there is no universal form and no systematic approach for data collection. There is anecdotal evidence that some preschools do

[21] It is also worth noting the 'self-reported' nature of the data when considering its reliability; specifically, whether preschools had an incentive to over- or under-report certain data. This is considered in Annex D.
[22] Article 177 in Law on Foundations of Education System and article 7 in the Law on Preschool Education.

not collect all the data specified in the law and that data on the socio-economic characteristics are not updated regularly;

- SoRS does not collect data disaggregated by ethnicity.[23] Consequently, the analysis relating to the enrolment of children from Roma families is limited;
- We have relied on the SoRS datasets from 2016, 2017, and 2018 as these were the most recent datasets at the time of analysis. SoRS provided a bespoke service in providing the data at the level of each preschool, which we then aggregated to a municipal level. Due to resource constraints, we were unable to purchase more than three years of data[24].

The PŠV datasets do not allow for the disaggregation of enrolment by wealth, and so we rely on 2019 MICS and 2011 Census data to provide an insight on equity. We have also relied on the *Regulation on Establishing of a Single List on Levels of Development of Regions and Local Self-Governments for 2014* to group the LSGs into five groups.[25] While the last of these groups – the least developed municipalities – are sometimes termed 'Group 4 devastated', in this report we have referred to them as Group 5 for ease of reading.

6.1.2 Access

Access - overall

Table 9 reports the statistics on the provision of preschool in Serbia as a whole, for the period 2016-18. A preschool 'facility' refers to an organising unit of a preschool which may have multiple branches at different sites. A preschool 'branch' refers to a preschool site (which is sometimes called a preschool 'object' elsewhere).

[23] SoRS does collect data on the mother tongue of the pupils, but Roma can have either Serbian or Romani as mother tongue (and even other languages) and thus their enrolment in preschool education can't be determined using the PŠV datasets.
[24] As discussed in the Inception Report.
[25] Group 1 LSGs have a value of gross domestic product per capita above the average in Serbia. Group 2 LSGs have a per capita gross domestic product between 80 and 100% of the national average. Group 3 LSGs have a per capita gross domestic product between 60 and 80% of the national average. Group 4 LSGs have a per capita gross domestic product between 50 and 60% of the national average. Devastated LSGs from group 4 have a per capita gross domestic product below 50% of the national average.

Table 9: Provision of preschool in Serbia (2016-18)

	2016	2017	2018
Enrolment (percentage)[26]			
Enrolment rate (age group 3 to 6.5 years)	60.6%	61.7%	63.5%
Enrolment rate excluding compulsorily preschool (age group 3 to 5.5 years)	47.9%	50.1%	51.7%
Enrolment rate compulsory preschool (age group 5.5 to 6.5 years)	98.0%	96.9%	99.4%
Enrolment (absolute)			
Number of children	265,308	263,263	263,186
Number of children enrolled	160,789	162,386	167,140
Number of children not enrolled	104,519	100,877	96,046
Facilities, branches, and groups			
Number of preschool facilities	329	396	441
Total number of branches	2,632	2,731	2,785
Number of groups	7,038	7,383.5	7,450
Share of groups by daily duration of programme (all ages)			
9 to 12 hours	73.5%	75.7%	77.7%
6 hours	1.9%	1.6%	1.7%
less than 6 hours	24.6%	22.7%	20.6%
Demand and supply			
Share of children enrolled over the norm	4.5%	4.5%	5.1%
Share of children on waiting list	1.2%	1.9%	1.7%
Occupancy rate (only public without compulsory preschool)	97.5%	97.8%	97.3%

Note: Age group 3 to 6.5 years (including compulsory preschool education program). The data includes both private and public preschools. Source: PŠV datasets. Authors' calculations.

In brief, we can conclude that enrolment in preschool education in Serbia is rising; both as a percentage, but also as a reduction in the absolute number of children who are not enrolled. Most of the children who are enrolled are also enrolled in full-day programmes. Although this is encouraging, the enrolment rate of 63.5% is still 31.9 percentage points below the EU

[26] Our analysis used data on children between the ages of 2.5 – 5.5 years old, and 2.5 – 6.5 years old, as data was not available on half-cohorts. At the request of a reviewer, we have presented this analysis throughout the report using the corresponding categories in ECE policy – i.e., 3-5.5 years old, and 3-6.5 years old.

average. Moreover, the enrolment rate for non-compulsory preschool is considerably lower at 51.7%.

The availability of preschool spaces appears to be a key constraint to increasing enrolment further. Although in 2018 48% of children aged 3 to 5.5 years are not enrolled in non-compulsory preschool, the occupancy rate for these facilities is nearly at full capacity (97.3%) and one in twenty classrooms have more children than the norm specified in the *Law on Preschool Education (Article 30)*.

The number of children on preschools' waiting lists is low, and much lower than the number of children unenrolled. This could suggest that demand for preschool is low, or alternatively this may reflect parents' unwillingness to join a preschool's waiting list. Alternatively, there may also be an issue with the accuracy of the data. The case studies of Belgrade, Novi Sad, and Kragujevac (included in Section 7) revealed that waiting lists were much longer at a LSG level than reported here.

Table 10 reports the statistics available on equity in particular.

Table 10: Equity statistics on preschool provision (2016-18)

	2016	2017	2018
Disability			
Share of children with special needs	0.5%	0.4%	0.4%
Socio-economic indicators			
Share of children - both parents unemployed	8.4%	7.5%	6.5%
Share of children - single parents	4.6%	4.3%	4%
Share of children - recipients of social assistance	2.9%	2.3%	2%
Share of children - recipients of child benefits	6.5%	5.2%	5%
Share of groups by language of instruction			
Serbian	95.7%	95.6%	95.8%
Hungarian	2.2%	2.1%	2.1%
Bosnia	0.9%	1%	0.9%
Albanian	0.5%	0.5%	0.5%
Other	0.8%	0.9%	0.7%

Note: Age group 3 to 6.5 years (including compulsory preschool education program). The data includes both private and public preschools. Source: PŠV datasets. Authors' calculations.

Our ability to interpret these data is limited, as we do not have the share of children enrolled of each of the above groups as a whole. We lack, for example, the number of children in the population where both parents are unemployed in order to calculate the enrolment rate for this demographic group in particular. For comparison purposes, we rely in this section on survey data instead of population data and international benchmarking.

With this caveat in mind, these data would suggest that children with disabilities are significantly under-represented at 0.4% of enrolments. This is especially problematic having in mind the existing positive legislation aiming to raise the inclusion of children with disabilities. Although the 2011 Census reported that children with disabilities constituted only 0.7% of children between the ages of 0 and 15 years old with disabilities,[27] the World Health Organisation (WHO) estimates that approximately 5.1% of children between the ages of 0 and 14 years old internationally have moderate or serious disabilities, and the National Organization of Persons with Disabilities of Serbia (NOOIS) use this to anticipate a similar figure in Serbia.

These data, along with MICS 2019 data, would also suggest that low-income families are under-represented in preschool. According to MICS 2019, 2.5% of children aged 0 to 4 years have parents who receive financial social assistance, and 30.8% of children receive child benefits. Yet children from such families make up only 2% and 5% of enrolments, respectively. Similarly, among children aged 0 to 6 years, 8.6% live with single-parents according to MICS 2019. This is supported by other data within MICS 2019; specifically, that the percentage of children aged 36 to 59 months attending preschool stood at 80.2% for the wealthiest quintile, and this share was gradually falling for each quintile reaching only 10.5% in the lowest quintile. Although the PŠV data (reported in Table 10) show that vulnerable families' share of enrolments decreased between 2016 and 2018, with the available data we unfortunately cannot conjecture why these shares have been falling.

Finally, these data suggest that there is a larger proportion of Serbian language speakers in preschool than there are in the general population. According to the 2011 Census, 83.3% of the population in Serbia declared themselves as Serbs, whereas Table 10 reports that

[27] Similarly, according to MICS 2019 there are 0.6% of children with functional difficulties in the age group 7 to 14 years.

95.8% of preschool groups used Serbian as the language of instruction. Considering that Serbian is the official language, however, it is difficult to infer ethnic enrolment from this statistic alone. However, MICS 2019 reports that only 7.4% of Roma children aged 36 to 59 months attended preschool.

Access – by municipal level of development

Table 10 disaggregates the statistics above by municipal level of development in 2018. To reiterate, Group 1 LSGs are those most developed (i.e. above the national average gross domestic product per capita), while Group 5 LSGs are the least developed (i.e. less than half of the national average).

Table 11: Provision of preschool by municipal level of development in 2018

	All	Group 1	Group 2	Group 3	Group 4	Group 5
Enrolment (percentage)						
Enrolment rate	63.5%	69.8%	62.3%	53.2%	57.4%	43.5%
Enrolment rate excluding compulsorily preschool	51.7%	60.7%	49.5%	37.6%	41.3%	24.0%
Enrolment rate compulsory preschool	97.8%	97.5%	93.7%	100.3%*	106.4%*	101.6%*
Share of children on waiting list	1.0%	1.4%	0.8%	0.7%	1.0%	0.4%
Enrolment (absolute)						
Number of children	263,186	139,058	52,122	47,354	12,186	12,466
Number of children enrolled	167,140	97,063	32,488	25,212	6,986	5,391
Number of children not enrolled	96,046	41,995	19,634	22,142	5,200	7,075
Number of children on waiting lists	2,785	1,918	431	350	125	53
Facilities, branches, and groups						
Preschool facilities	441	310	39	47	26	19
Total number of branches	2,785	1,249	580	572	195	189
Number of groups	7,450	4,344	1,282	1,124	365	335
Share of groups by daily duration of programme (all ages)						
9 to 12 hours	77.7%	87.5%	73.2%	58.1%	55.9%	38.2%
6 hours	1.7%	0.8%	2.9%	2.7%	4.4%	3.8%
less than 6 hours	20.6%	11.7%	23.9%	39.1%	39.8%	58%
Demand and supply						
Share of children enrolled over the norm	5.1%	4.2%	2.2%	6.7%	4.2%	4.8%
Share of children on waiting list	1.7%	2%	1.3%	1.4%	1.8%	1%

Occupancy rate (only public without compulsory preschool)	97.3%	97.7%	97.3%	97.5%	94.5%	94.2%

* Note: Age group 3 to 6.5 years (including compulsory preschool education program). The data includes both private and public preschools. The fact that the enrolment rate exceeds 100% may be because children register in one municipality but attend preschool in another municipality. Source: PŠV datasets. Authors' calculations.

Disaggregated in this way, it is apparent that there are significant disparities between municipalities of different levels of development. Less developed municipalities have lower enrolment rates, especially for non-compulsory preschool. Less developed municipalities also have fewer preschools overall, as well as fewer eligible children. Children in less developed municipalities are more likely to attend programmes lasting shorter than 6 hours per day, perhaps because the compulsory preschool programme (which lasts 4 hours) make up a larger share of enrolments. However, there are also key similarities – most notably, less developed municipalities have similar levels of occupancy and over-enrolment rates.

In Table 12, we report the share of unenrolled children (overall) by municipal level of development.

Table 12: Share of unenrolled children by municipal level of development in 2018

	Total	Group 1	Group 2	Group 3	Group 4	Group 5
Number of children not enrolled	96,046	41,995	19,634	22,142	5,200	7,075
Share of children not enrolled	100%	43%	20%	23%	5%	7%

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

This suggests that although the least developed municipalities have the lowest enrolment rates, the most developed municipalities have the largest numbers of unenrolled children. The number of unenrolled children in the poorest two LSG groups is a relatively small (12.8%) proportion of the whole. Most of the unenrolled children in the poorest two LSG groups are in the regions of Šumadija and Western Serbia and Southern and Eastern Serbia (12,098 children or 12.6%), while the remaining are in Vojvodina (177 children or 0.2%). In terms of parental employment status, 6,628 (7% of the total of unenrolled children and 54% of the unenrolled children in the poorest two LSG groups) have both working parents, 4,774 (5% of the total of unenrolled children and 39% of the unenrolled children in the poorest two LSG groups) have one employed parent, while 2,727 (3% of the total of unenrolled children and 22% of the unenrolled children in the poorest two LSG groups) have both parents

unemployed. In terms of child benefits, 2,900 (3% of the total of unenrolled children and 24% of the unenrolled children in the poorest two LSG groups) are recipients of child benefits.

6.1.3 Prevalence of private providers

Table 13 reports the number and share of preschool branches that are run by private providers between 2016 and 2018.

Table 13: Prevalence of private providers (2016-18)

	2016	2017	2018
Absolute numbers			
Total number of branches	2,632	2,731	2,785
Number of public branches (approx.)	2437	2433	2420
Number of private branches (approx.)	195	298	365
Annual growth			
Annual growth of public branches	-	-0.2%	-0.5%
Annual growth of private branches	-	153%	122%
Share (public vs. private)			
Share public	92.6%	89.1%	86.9%
Share private	7.4%	10.9%	13.1%

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

This shows that the total number of preschool branches is increasing. This is due to an increase in private branches and despite a very minor *decrease* in public branches. The increase in the number of private branches is relatively large in relation to the number of private branches in 2016, but the share of branches that are private is nonetheless small.

Table 14 reports the number of public and private branches by municipal level of development in 2018.

Table 14: Public and private preschool branches by municipal level of development

	All	Group 1	Group 2	Group 3	Group 4	Group 5
Absolute numbers						
Total number of branches	2,785	1,249	580	572	195	189
Number of public branches (approx.)	2420	893	574	571	194	189
Number of private branches (approx.)	365	356	6	1	1	0

Share (public vs. private)						
Share public	86.9%	71.5%	99%	99.8%	99.5%	100%
Share private	13.1%	28.5%	1%	0.2%	0.5%	0%

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

Private preschools are thus almost entirely a phenomenon of the most developed municipalities, which make up 97.5% of all private preschools. The most obvious reason for this may be income-level, as Group 1 municipalities are above the national average. However, population density may also be a factor, as Group 1 municipalities have 3-times and 4.5-times the population per square kilometre compared to Group 2 and 5 LSGs, respectively. It is also possible that there is more demand among parents for preschool provision in the most developed municipalities. Private preschools are practically absent from the three least developed LSG groups.

Table 6 reports the difference within Group 1 municipalities between those that use a voucher-system of PPP with private preschools, and those that do not, between 2016 and 2018.

Table 15: Public and private school branches in LSGs with vs. without vouchers (2016-18)

	Group 1 with vouchers			Group 1 without vouchers		
	2016	2017	2018	2016	2017	2018
Absolute numbers						
Total number of branches	748	851	925	327	321	324
Number of public branches (approx.)	566	565	580	319	313	313
Number of private branches (approx.)	182	286	345	8	8	11
Share (public vs. private)						
Share public	76%	66%	63%	98%	98%	97%
Share private	24%	34%	37%	2%	2%	3%

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

There are two important observations apparent in Table 15. The first observation is that private preschools are almost exclusively a feature of LSGs which use a voucher system. Those LSGs in G1 without a voucher system have very few providers at all. The second observation is that the number of preschools has increased in LSGs in G1 with the voucher system and has decreased in LSGs in G1 without the voucher system. The increase in preschools is largely due to a significant increase in private providers, but the number of

public preschools also increased in LGSs with the voucher system. There has been an increase of 177 branches in LSGs in G1 with the voucher system, and almost all (163, or 92%) have been private.

In Table 16, we report the change of enrolment between 2015 and 2018 for LSGs in G1 with the voucher, LSGs in G1 without the voucher, and all other LSGs.

Table 16: Change in enrolment in LSGs

	2015	2018	Change in enrolment	Share (%) of new enrolments
LSG G1 with voucher	65,099	74,492	9,393	78.1%
LSG G1 without voucher	23,427	22,571	-856	Nil.
LSG G2-5	67,444	70,077	2,633	21.9%
All	155,970	167,140	11,170	

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

In sum, LSGs in G1 with the voucher programme have contributed the largest share of the increases in preschool enrolment. Table 15 reported that within those LSGs, private providers account for 92% of new preschools. In sum, the growth in preschool enrolments between 2015 and 2018 appear to be due largely to the increase in the number of private providers.

6.1.4 Quality

The quality of ECEC provision is typically evaluated through two dimensions: structural and process quality (Eurydice, 2019). Structural quality refers to checking that the inputs to ECEC provision comply with a certain set of standards. This would include, for example, building regulations, staff qualifications, and group sizes. Process quality, on the other hand, refers to the quality of teaching itself – such as how the curriculum is being implemented, how staff and children interact, and how children interact with each other. A summary of how Serbia's standards in this regard compare to other European countries is included in Section 3 of this report.

The PŠV datasets report on several indicators relating to structural quality. These are presented in Table 17 below.

Table 17: PŠV indicators of structural quality

	2016	2017	2018
Total staff			
Number of preschool teachers	13,407	13,971	14,403
Number of pedagogical assistants	3,893	4,176	4,491
Ratios			
Number of children per group	22.8	22	22.4
Number of children per teacher	12	11.6	11.6
Number of children per pedagogical assistant	41.3	38.9	37.2
Square meters per child (only working rooms)[a]	2.1	2.3	2.4

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

The number of children per group and per teacher remained constant between 2016 and 2018. The number of children per teacher is also significantly below the OECD average, which is 14.2. The number of children per assistant decreased 10% over this period, and the number of square meters per child has also increased by 14%. In short, based on these indicators structural quality has remained much the same, with small improvements.

Table 18 disaggregates this data according to municipal level of development.

Table 18: Indicators of structural quality by municipal level of development

	all	Group 1	Group 2	Group 3	Group 4	Group 5
Total staff						
Number of preschool teachers	14,403	8,578	2,639	2,045	664	477
Number of pedagogical assistants	4,491	3,318	525	442	146	60
Ratios						
Number of children per group	22.4	22.3	25.3	22.4	19.1	16.1
Number of children per teacher	11.6	11.3	12.3	12.3	10.5	11.3
Number of children per pedagogical assistants	37.2	29.3	61.9	57	47.8	89.9
Square meters per child (only working rooms)	2.4	2.3	2.5	2.5	2.9	2.5

Note: Age group 3 to 6.5 years. Source: PŠV datasets. Authors' calculations.

For number of children per group and per teacher, and number of square meters per child, the results do not vary much depending on the level of municipal development. Two

indicators are an exception to this in Group 5, however. In Group 5 the number of children per group is 28% lower than the average across all municipalities. This may be due to lower population density[28] or a lack of demand among parents for preschool. In addition, the number of children per pedagogical assistant is more than double the average across all municipalities. This may be because there are far fewer assistants in Group 5 municipalities, both in absolute terms and in relation to the number of teachers. The reasons for this are unclear, however. In sum, based on the available indicators the quality inputs are similar across municipalities, with the exception of fewer teaching assistances in Group 5 municipalities as well as smaller groups.

6.2 Projections of future demand

6.2.1 Methodology

In this section, we consider the extent to which the analysis in Section 5.1 is likely to change over the next 10 years. To do this, we consider two key variables.

- **Population growth.** The analytical method of demographic projections are based on assumptions regarding fertility, mortality and migration trends in each LSG during the projection period. Specifically, hypotheses were made for fertility using female age, mortality by age and gender, as well as for migration balance and its distribution by age and gender.
- **Changes in the enrolment rate.** While population growth was calculated based on historical growth, the enrolment rate was treated as an exogenous variable. This is because the government of Serbia does not plan to increase the enrolment rate at the current trajectory, but rather to make significant gains very rapidly. Consequently, in each model we created different variations based on whether the enrolment rate would increase by 20, 40, or 50 percentage points, or otherwise stay the same.

The population projections, calculated for the purpose of this exercise, relate to the short-term period, i.e., January 1, 2020 – January 1, 2030, with a particular focus on 2025 and

[28] The mean population per square kilometre in Group 5 municipalities is 62.4, compared to 72.8 in Group 4 municipalities and 282 in Group 1 municipalities.

2030 as mid- and endpoints. This was due to limitations in the data available given the resources of the study.

We only focus on the children in the age group 3 – 5.5 years, since the age group 5.5 – 6.5 years is very close to the full coverage even across different levels of municipal development. We further assume that all available places in public and private preschools in 2018 are for the age group 3 – 5.5 years. The increased coverage scenario of 50pp is only possible for the LSGs that have the potential of increasing enrolment rates by more than 50pp.

We disaggregate the data along two dimensions; the municipal level of development, and geographical region. The purpose of the former was to understand the possible impacts of municipal budgets, while the purpose of the latter was to uncover any discrepancies between regions more broadly (i.e. Belgrade, Vojvodina, Šumadija and Western Serbia, Southern and Eastern Serbia). The methodology used in this section is described in full in Annex E.

Projections – overall

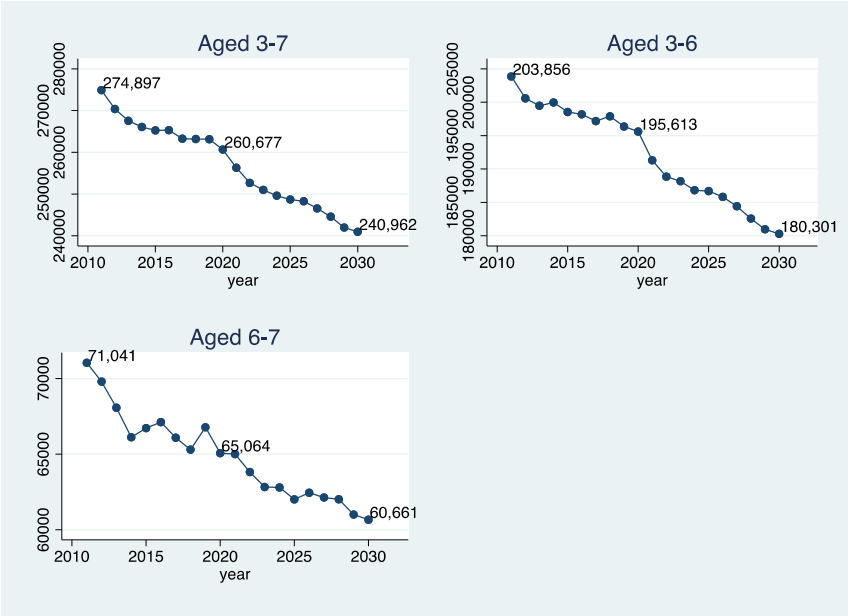
The overall demographic trend is negative. Figure 1 shows this negative demographic trend for the age groups in focus of this report (3-6.5, 3-5.5 and 5.5-6.5). The median value of the average annual population growth rate, calculated using the population projections in the period 2011-2030 is –1.2% for the age group 3-6.5, –1.2% for the age group 3-5.5, and –1.4% for the age group 5.5-6.5.[29]

We also confirm the findings of Baucal et al. (2016) that in some municipalities the negative trend is relatively strong, which is aligned with the lower development level (LSGs in Šumadija and Western Serbia and Southern and Eastern Serbia and in development level Groups 3, 4 or 5) and population density (LSGs in districts with a population density below the national average). In some of these municipalities, the average population growth rate for the age group 3-6.5 is less than –2.4%, belonging to the bottom 5% of the average population growth distribution. Examples of these are Babušnica, Boljevac, Žabari, Žagubica, Knić, Kučevo, Malo Crniće and Negotin. Municipalities with the highest population growth rates for the age

[29] We also calculate average annual (compound) population growth rates, which show a similar picture. For a definition of both the average annual population growth rate and the average annual (compound) population growth rate, see Annex E.

group 3-6.5 (above 2.3%, belonging to the top 1% of the average population growth distribution) are in Belgrade (municipalities Vračar and Stari Grad), are in Group 1 and are in the district of Belgrade, which has the highest population density in the country.

Figure 11. Population projections at the national level by age group (2011-2030)



Notes: Age group indicated in each sub-figure.
Source: PŠV and SoRS projections data, Authors' calculations.

Table 19 shows four assessment of demand scenarios in 2025 and 2030.

Table 19: Assessment of demand scenarios (2025 and 2030)

	Absolute values	Enrolment rates (%)	Increase in demand (%)
2018 situation			
Total number of children	197,890		
Enrolled number children	102,321	51.71	
2025 projection			
Total number of children	186,700		
Number of children enrolled at current rate	96,535	51.7%	-14.0%
Increase enrolment rates by 20pp	133,875	71.7%	22.5%
Increase enrolment rates by 40pp	171,215	91.7%	59.0%
Increase enrolment rates by 50pp	189,885	101.7%	77.3%
2030 projection			
Total number of children	180,301		
Number of children enrolled at current rate	93,226	51.7%	-17.2%

Increase enrolment rates by 20pp	129,287	71.7%	18.0%
Increase enrolment rates by 40pp	165,347	91.7%	53.3%
Increase enrolment rates by 50pp	183,377	101.7%	70.9%

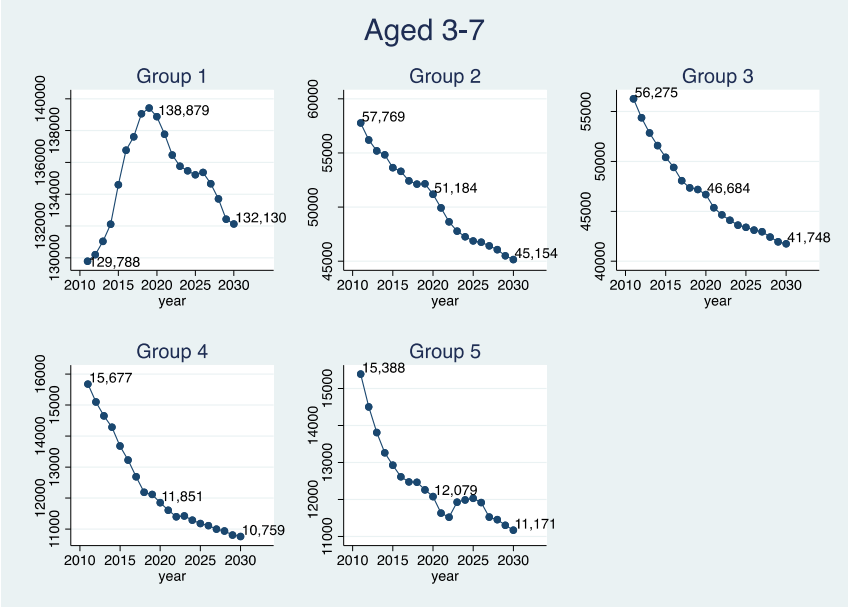
Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

We see that if the enrolment rates stay at the 2018 level of around 52% (*status quo*), due to the negative demographic trend, the current preschool capacities would be able to accommodate the preschool demand at this low enrolment rate in both 2025 and 2030. If enrolment rates were increased to 70%, 90%, and 100%, then the current supply of preschool places would need to increase by 23%, 59%, and 77% in 2025, or slightly less by 2030. In other words, although population growth is negative, a substantial increase in the supply of preschool places will still be necessary if enrolment targets are to be met.

Projections by municipal level of development

Figure 2 disaggregates the data by age groups and level of municipal development. Except for Group 1 LSG in the period from 2011 to 2020, when there was an upward demographic trend, in all other LSGs the demographic trend is negative for the three analysed age groups, 3-6.5, 3-5.5 and 5.5-6.5, in the period from 2011 to 2030.

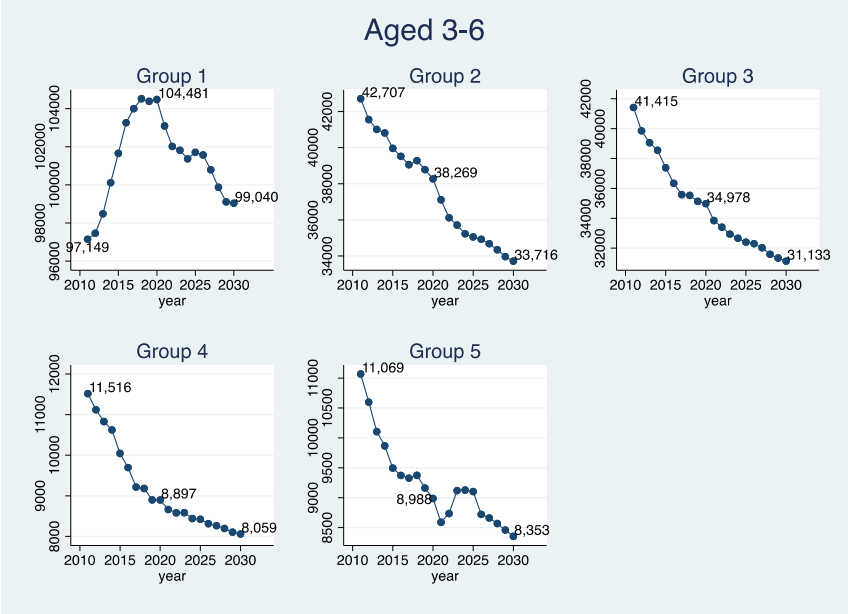
Figure 12a. Population projections (2011-2030) by level of development and age group: Aged 3-5.5



Notes: Age group 3 to 5.5 years.

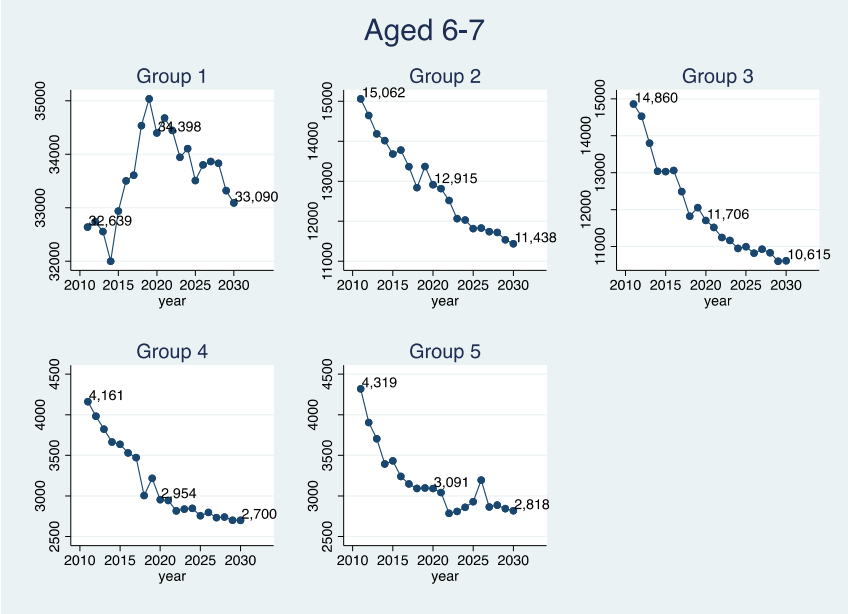
Source: PŠV and SoRS projections data, Authors' calculations.

Figure 13b. Population projections (2011-2030) by level of development and age group: Aged 3-5.5



Notes: Age group 3 to 5.5 years.
Source: PŠV and SoRS projections data, Authors' calculations.

Figure 14c. Population projections (2011-2030) by level of development and age group: Aged 5.5-6.5



Notes: Age group 5.5 to 6.5 years.
Source: PŠV and SoRS projections data, Authors' calculations.

Table 20 reports the projected number of children (3-5.5 years old) for each LSG in 2025 and 2030. The smallest decline is projected to be in the most developed municipalities, followed by – intriguingly – the least developed municipalities.

Table 20: Assessment of demand scenarios by municipal level of development

	Group 1	Group 2	Group 3	Group 4	Group 5
2018 (actual)					
Number of children	104,523	39,280	35,532	9,181	9,374
2025 projection					
Projected number of children	101,713	35,057	32,405	8,422	9,103
Decrease from 2018 (%)	-2.7%	-10.8%	-8.8%	-8.3%	-2.9%
2030 projection					
Projected number of children	99040	33716	31133	8059	8353
Decrease from 2018 (%)	-5.3%	-14.2%	-12.4%	-12.2%	-10.9%

Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

Tables 21 reports the number of additional preschool places that would be required in each group of municipalities in 2025, for a given increase in the enrolment rate. The implications of this mirror the findings reported in Section 5.1 above – the vast majority of new 'places' in absolute terms for children in preschool will need to be created in the most developed municipalities, whereas the largest increase as a proportion will be in the least developed municipalities. If Serbia were to reach near universal enrolment by 2025, then Group 1 municipalities will require 38,779 new places, Groups 2 and 3 will together require 30,464 new places, and Groups 4 and 5 will together require only 8,384 new places. Nonetheless, as a proportional increase, the growth require in Group 1 is much smaller than in less development municipalities. While Group 1 would require an increase of 52%, the number of preschool places in Group 5 would have to grow by 184%.

Table 21: Additional preschool places required by municipal level of development (2025)

	Group 1	Group 2	Group 3	Group 4	Group 5
Enrolment rates increased by 20 percentage points (pp)					
Enrolment rate	80.7%	69.5%	57.6%	61.3%	44.0%
Number of additional preschool places required in 2025	18,636	4,919	5,306	1,371	1,756

Growth in number of preschool places required between 2018 and 2025 (%)	19.7%	20.7%	34.6%	24.9%	63.3%
Enrolment rates increased by 40pp					
Enrolment rate	100%	89.5%	77.6%	81.3%	64.0%
Number of additional preschool places required in 2025	38,979	11,931	11,787	3,056	3,576
Growth in number of preschool places required between 2018 and 2025 (%)	51.7%	56.7%	83.2%	69.4%	144.2%
Enrolment rates increased by 50pp					
Enrolment rate	100%	99.5%	87.6%	91.3%	74.0%
Number of additional preschool places required in 2025	38,979	15,436	15,028	3,898	4,486
Growth in number of preschool places required between 2018 and 2025 (%)	51.7%	74.7%	107.5%	91.6%	184.6%

Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

Table 22 presents the same calculation for 2030. The total number of places required is less due to negative population growth, especially in the least developed municipalities where this trend is strongest. Nonetheless, the changes are relatively minor – Group 1 municipalities will need 36,282 new places, Groups 2 and 3 will together need 28,015 new places, and Groups 4 and 5 will together need 7,497 new places.

Table 22: Additional preschool places required by municipal level of development (2030)

	Group 1	Group 2	Group 3	Group 4	Group 5
Enrolment rates increased by 20pp					
Enrolment rate	80.7%	69.5%	57.6%	61.3%	44.0%
Number of additional preschool places required in 2030	16,478	3,987	4,574	1,149	1,426
Growth in number of preschool places required between 2018 and 2030 (%)	16.3%	15.9%	29.2%	19.1%	48.6%
Enrolment rates increased by 40pp					
Enrolment rate	100%	89.5%	77.6%	81.3%	64.0%
Number of additional preschool places required in 2030	36,286	10,730	10,801	2,761	3,096
Growth in number of preschool places required between 2018 and 2030(%)	47.5%	50.5%	75.8%	61.6%	122.9%
Enrolment rates increased by 50pp					
Enrolment rate	100%	99.5%	87.6%	91.3%	74.0%
Number of additional preschool places required in 2030	36,286	14,101	13,914	3,566	3,931

Growth in number of preschool places required between 2018 and 2030 (%)	47.5%	67.9%	99.1%	82.9%	160.0%

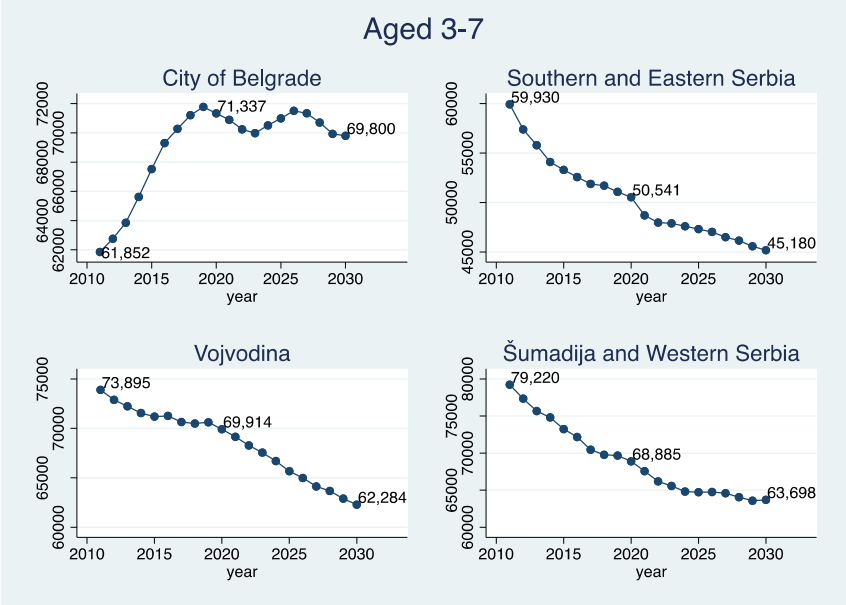
Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

Projections by geographical region

In addition to the assessment of future demand for preschool by different development levels, we have also developed short-term scenarios by different regions. Geographic division also provides division by development, since developed regions are regions that have a GDP above the national average (Belgrade and Vojvodina), and insufficiently developed regions are regions that have a GDP below the national average (Šumadija and Western Serbia and Southern and Eastern Serbia).

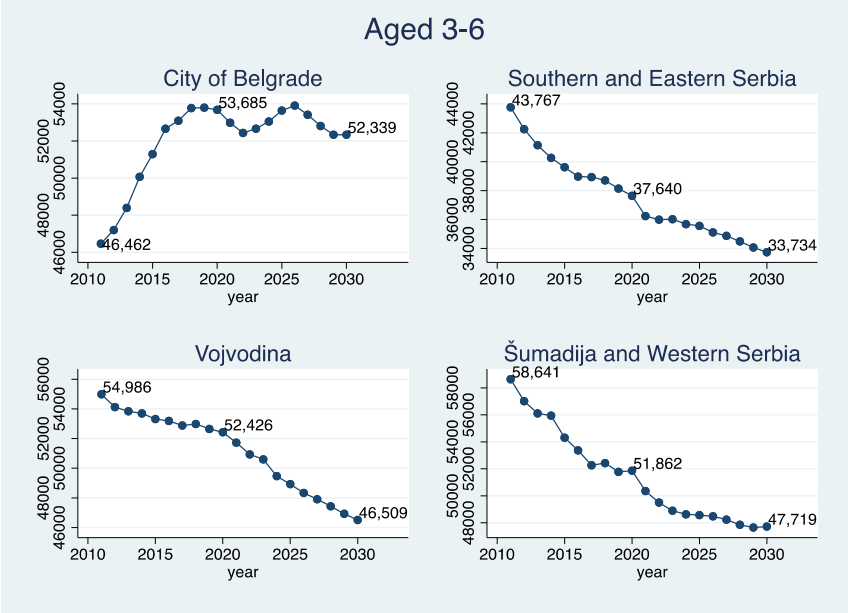
When we disaggregate the data by region, except for the City of Belgrade, we see again that in most LSGs the demographic trend is negative for the three analysed age groups, 3-6.5, 2.5-5.5 and 5.5-6.5 (Figure 15). Belgrade, Vojvodina, Šumadija and Western Serbia had similar numbers of preschool children aged 3-6.5 in 2018 (71,337, 69,914 and 68,885, respectively), while in Southern and Eastern Serbia this number was lower and stood at 50,541. In terms of enrolment rates of children aged 3-5.5 in 2018, they were the highest in Belgrade (62%), followed by Vojvodina (52%), while in Šumadija and Western Serbia, and Southern and Eastern Serbia this was 45% and 39%, respectively.

Figure 15. Population projections (2011-2030) by region and age group

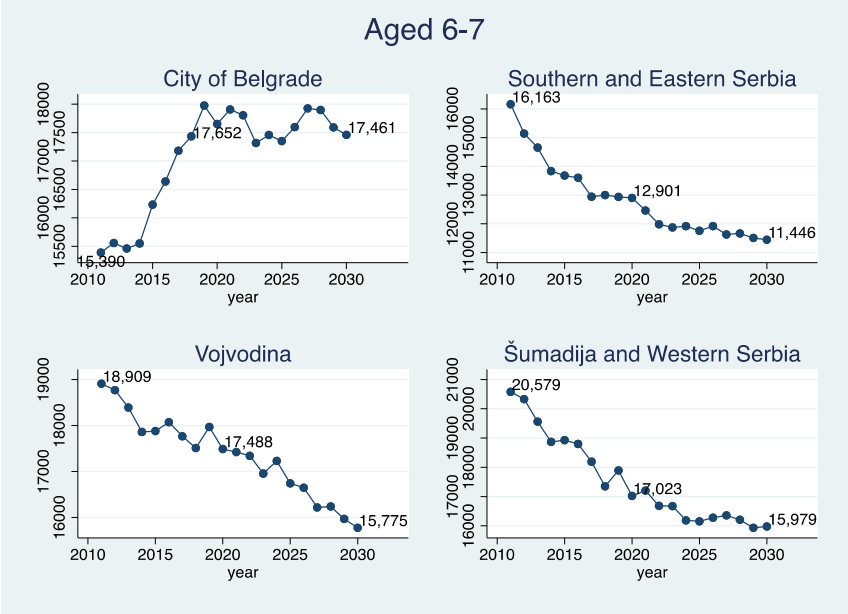


Notes: Age group 3 to 6.5 years.

Source: PŠV and SoRS projections data, Authors' calculations.



Notes: Age group 3 to 5.5 years.
Source: PŠV and SoRS projections data, Authors' calculations.



Notes: Age group 5.5 to 6.5 years.
Source: PŠV and SoRS projections data, Authors' calculations.

Table 23 reports the projected number of children (3-5.5 years old) for each region in 2025 and 2030. Negative population growth has the smallest impact in Belgrade in both 2025 (-

0.25%) and 2030 (-2.75%). In 2025, it is distributed more or less evenly between the remaining three regions (between -7.35 and -8.85%). In 2030 regional differences widen, such that Southern & Eastern Serbia (-14.74%) and Vojvodina (-12.22%) are significantly ahead of Šumadija & Western Serbia (-8.97%).

Table 23: Assessment of demand scenarios by region (2025 and 2030)

	Belgrade	Southern & Eastern Serbia	Vojvodina	Šumadija & Western Serbia
2018				
Total number of children	53,777	38,707	52,982	52,424
2025 projection				
Projected number of children	53,643	35,560	48,927	48,570
Decrease from 2018 (%)	-0.2%	-8.8%	-7.7%	-7.4%
2030 projection				
Projected number of children	52,339	33,734	46509	47719
Decrease from 2018 (%)	-2.7%	-14.7%	-12.2%	-9.0%

Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

Tables 23 reports the number of additional preschool places that would be required in each region in 2025. To reach near universal access to preschool, approximately 22,000 new places will be required in each of the regions of Belgrade, Vojvodina, and Šumadija & Western Serbia, and 16,513 will be required in Southern & Eastern Serbia. This will require increasing the number of places in Belgrade and Vojvodina by 48% and 70% respectively, and nearly doubling the capacity in the Southern & Eastern Serbia, and Šumadija & Western Serbia. In other words, while there are discrepancies between each of the four regions, these are not as significant as the differences between municipal levels of development.

Table 24: Additional preschool places required by region (2025)

	Belgrade	Southern & Eastern Serbia	Vojvodina	Šumadija & Western Serbia
2018 (actual)				
Enrolment rate	64.4%	40.3%	56.0%	42.8%
Total number of enrolled children	34,632	15,587	29,650	22,452
Enrolment rates increased by 20pp				
Enrolment rate	84.4%	60.3%	76.0%	62.8%

Number of additional preschool places required in 2025	10,643	5,845	7,516	8,063
Growth in number of preschool places required between 2018 and 2025 (%)	16.8%	31.6%	20.3%	30.4%
Enrolment rates increased by 40pp				
Enrolment rate	100%	80.3%	96.0%	82.8%
Number of additional preschool places required in 2025	21,371	12,957	17,302	17,777
Growth in number of preschool places required between 2018 and 2025 (%)	47.7%	77.2%	53.3%	73.7%
Enrolment rates increased by 50pp				
Enrolment rate	100%	90.3%	100%	92.8%
Number of additional preschool places required in 2025	21,371	16,513	22,194	22,634
Growth in number of preschool places required between 2018 and 2025 (%)	47.7%	100%	69.8%	95.3%

Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

Tables 25 repeats the exercise for 2030. As before, minor negative population growth means that there is relatively little change between 2030 and 2025, although relative differences between regions will increase. To reach near universal access to preschool by 2030, approximately 20,000 new places will be required in each of the regions of Belgrade and Vojvodina. Southern & Eastern Serbia will require the fewest number of places (close to 15,000), while Šumadija & Western Serbia will require the most (close to 22,000).

Table 25: Additional preschool places required by region (2030)

	Belgrade	Southern & Eastern Serbia	Vojvodina	Šumadija & Western Serbia
2018 (actual)				
Enrolment rate	64.4%	40.3%	56.0%	42.8%
Total number of enrolled children	34,632	15,587	29,650	22,452
Enrolment rates increased by 20pp				
Enrolment rate	84.4%	60.3%	76.0%	62.8%
Number of additional preschool places required in 2030	9,542	4,744	5,679	7,529
Growth in number of preschool places required between 2018 and 2030 (%)	13.6%	24.6%	14.1%	28.1%
Enrolment rates increased by 40pp				
Enrolment rate	100%	80.3%	96.0%	82.8%
Number of additional preschool places required in 2030	20,010	11,491	14,981	17,073

Growth in number of preschool places required between 2018 and 2030 (%)	44.3%	67.1%	45.5%	70.6%
Enrolment rates increased by 50pp				
Enrolment rate	100%	90.3%	100%	92.8%
Number of additional preschool places required in 2030	20,010	14,864	19,632	21,844
Growth in number of preschool places required between 2018 and 2030 (%)	44.3%	89.5%	61.2%	91.8%

Notes: Age group 3 to 5.5 years. Source: PŠV and SoRS projections data, Authors' calculations.

7 Case studies within Serbia

In this section, we report on case studies of PPP arrangements in three municipalities: Belgrade (7.1), Kragujevac (7.2), and Niš (7.3). All three of municipalities currently use a voucher-system that supports families to use private preschools under particular conditions.

For each case study, we explore:

- The context of the voucher programme;
- How families enroll;
- How the voucher is paid;
- How private preschools are regulated in practice;
- Considerations regarding equity;
- The reported benefits of the voucher system;
- The relationship between the LSG and private providers; and
- The impact of COVID-19 on the voucher system.

We conclude with a reflection on equity and impact across all three municipalities (7.4). The methodology for these case studies and the associated analysis has been included in Annex F.

7.1 City of Belgrade

Context

In 2015, due to long waiting lists for public preschools, the City of Belgrade was the first LSG to introduce subsidies to parents for private preschool education. The high demand for preschool places is best reflected in the number of applications versus the number of available places in the annual call for enrolment. In Belgrade, once a year parents can apply for public preschool places. Each year there are approximately 20,000 applications, but only approximately 10,000 available places. In 2015 - prior to the subsidy system - there were

62,767[30] children aged 6 months to 6.5 years enrolled in preschool education in Belgrade, and only a small number - 4,911 children, or 7.8% - were enrolled in private preschools.

As with each of the other case studies, the City of Belgrade introduced a voucher system based on the *Law of Financial Support to Families with Children*. After the introduction of the voucher programme, the number of children aged 6 months to 6.5 years enrolled in private preschool education almost tripled within 3 years, and there were 15,180 (21.3%) children enrolled in 2018. Similarly, the number of private preschools increased from 72 preschools with 85 branches in 2015, to 211 preschools with 290 branches in 2018.[31]

Enrolling in the voucher programme

Families may apply for preschool and for the voucher throughout the year. In order to be eligible for a voucher, families must meet three conditions:

- The parents and children must be Serbian citizens;
- They must be residents of Belgrade; and
- They must have applied for a place in a public preschool institution in the City of Belgrade, been rejected, and received a rejection letter.

Once these three conditions are met, parents can sign a contract with a verified private preschool institution, enrol their child, and apply for a voucher. The duration of the voucher is until August, the renewal takes place in September, and the voucher is granted automatically after parents formally apply again for the voucher. However, parents lose the voucher if a child does not attend preschool for two months.

Fees and the value of the voucher

The value of the voucher is up to 80% of the economic price, but the exact amount depends on the number of days that a child attends preschool. In 2019/2020, the monthly economic price was RSD 27,950 (EUR 237)[32] so the value of the voucher was at most RSD 22,360 (EUR 189). The City subsidises 80% of the economic price on days when children attend preschools (e.g. daily subsidy is RSD 1,016 or EUR 8.6 when there are 22 working days in a

[30] PŠV form, Statistical Office of the Republic of Serbia
[31] PŠV form, Statistical Office of the Republic of Serbia
[32] Exchange rate 1 EUR is 118 RSD, July 2020.

month) and only 50% of the economic price when children don't attend (RSD 635 or EUR 5.4). The value of this voucher does not vary depending on the socio-economic status of the family.

The economic cost of preschool provision in Belgrade (EUR237) is significantly higher than Kragujevac (EUR145) and Niš (EUR185), as well as the economic cost of preschool reported in other cities (see Section 5.5.1). This may be due, at least in part, to differences in either actual costs or the cost-values assumed for different inputs, as discussed in Section 5.5.1. Both Belgrade and Niš are unusual in calculating the economic price based on the average attendance rate, rather than the number of children enrolled. Both assume an overage attendance rate of 60% of total enrolments.

It is also notable that Belgrade appears to pay private preschool providers a larger sum per child than public providers. Table 26 indicates Belgrade's total expenditure on public and private preschools, divided by the number of children in private and public preschools respectively.

Our calculations indicate that the City of Belgrade paid in 2018 monthly EUR92 (RSD 10,878) for an enrolled child to public preschools, while private providers received, on average, almost double of the amount that public preschools receive that is EUR175 (RSD 20,645) per month for an enrolled child.[33] Interestingly, while the economic price remained unchanged from 2016 to 2018, the amount that the City pays to private preschools for each enrolled child increased from EUR144 (RSD 16,972) in 2016 to EUR175 (RSD 20,645). This could indicate either that the attendance of children in private preschools increased or that preschools started over-reporting the attendance as it became more difficult for the City to monitor the attendance when more preschools entered the market.

Table 26: Preschool expenditure in Belgrade

	2016	2017	2018
Total expenditure with capital investment	10,893,565,535	12,187,923,882	15,516,487,615
Capital investment	239,483,234	271,523,186	395,751,179
Expenditure on penalties	8,145,000	250,745,000	1,531,067,000

[33] Similarly, for 2016 we calculate that the City paid per enrolled child 78EUR (RSD 9,176) for public and 144EUR (RSD 16,972) for private preschools. For 2017 we obtain 79EUR (RSD 9,333) for public and 172EUR (RSD 20,645).

Total expenditure without capital investment and penalties	10,645,937,301	11,665,655,695	13,589,669,436
Expenditure on public preschool provision	9,525,590,549	9,555,731,560	10,413,927,783
Expenditure on private preschool provision	1,120,346,752	2,109,924,135	3,175,741,652
Number of children enrolled in public preschools	58,031	57,566	56,434
Number of children enrolled in private preschools	5,560	8,687	12,819
Public expenditure per child in public preschools (with parental part)	13,679	13,833	15,378
Public expenditure per child in public preschools (without parental part)	9,179	9,333	10,878
Public expenditure per child in private preschools	16,792	20,240	20,645

Private preschool institutions are also free to determine their monthly price and usually the prices are higher than the economic price. Some preschools offer discounts for summer months or when a child does not attend preschool for a longer period, but the exact price setting is left to the private preschool institutions.

Payment of the voucher

At the beginning of each month, parents pay the monthly price to the preschool institution. At the beginning of the subsequent month, the preschool institution submits to the City the attendance lists for all children enrolled in the preschool institution and the bank statements proving parental payments for each child for the previous month. Based on the attendance, the City calculates the subsidy and transfers the amount to the bank account of the parents for the previous month. In the current system parents are penalised when children are sick or do not attend preschool for any other reason since they must pay more for these days. There is anecdotal evidence that some preschools over-report the attendance of children so that parents do not have to pay more for the days when the child was not present.

Regulation of private preschools

All verified preschools are eligible to participate in the voucher programme. In theory, private preschools are subject to the same conditions as public preschools regarding the quality of services provided as described in Section 4. However, in practice, the private preschool

principals interviewed for this case study reported that they had visits from educational inspectors (who are responsible for ensuring compliance), but had never been visited by educational advisors (who are responsible for pedagogical supervision).

In addition to ensuring that the preschool complies with the regulations, educational inspectorates reportedly also pay particular attention to whether the attendance rate of children reported is accurate. It was explained by principals that although private preschools do not have a *direct* financial benefit from over-reporting, there is nonetheless pressure to do so, as some parents ask preschools to over-report attendance, and those schools that do over-report are preferred by some parents.

Equity

As discussed in Section 4, in public preschools, priority access is legally reserved for children from vulnerable and marginalised groups (i.e. those who are victims of violence, economically disadvantaged children, and children without parental protection) and for some of these groups the LSGs are required to cover the parental contribution, so public preschool education is free. However, in private preschool there is no priority access and children from vulnerable and marginalised groups do not have any preferential treatment in terms of price. The two private preschools that we interviewed confirmed that they do not have Roma children or children from deprived families. They stated that they have very few with special educational needs.

However, the key consideration regarding equity for the voucher system is the timing of payment. In Belgrade, the post-hoc payment of the voucher to families is a barrier to equity. Since parents are required to pay for the fees of the preschool and then wait to be reimbursed by the government, many parents cannot afford to enrol their children even with the voucher.

Benefits

The preschools that we interviewed stated that the introduction of the voucher system benefited children, parents, preschools, and the LSGS. The voucher system allows a higher enrolment rate, and more children can benefit from a formal preschool education. Preschools that existed before the subsidy benefited from the new system because they could increase their capacities and offer a more diverse program. There is anecdotal evidence that private

preschools increased their prices when the voucher system was introduced because the subsidy effectively lowered the price for parents; preschools used this opportunity to raise their prices. Finally, as described at the beginning of this section, the voucher system allowed new preschools to enter the market.

Regarding families, the voucher system has enabled them to have access to preschool services even when public preschool institutions were full. Moreover, it has made private preschool more affordable, and this is considered beneficial as private preschools are reportedly perceived to be of higher quality. However, this appears to have been less cost-efficient than public provision, since the LSG appears to spend more per child in private rather than public preschools.

Regarding the LSG, the respondents reported that the City of Belgrade reached its goal to increase the enrolment rate. The LSG did not have to make an initial investment to build and equip preschools, however, our calculations suggest that the LSG pays considerably more for a child enrolled in private preschool than in public preschool.

Relationship between LSG and private providers

Overall, private preschools reported that the co-operation between the LSG and private providers should be improved. While they acknowledge that parents receive the subsidy on time (although post-hoc), and this is very important, they point out that there is no communication with the LSG aside from the information exchange relating to the subsidy. In contrast, public preschools are operated by the City and they also receive instruction from the City on how to act under special circumstances.

For instance, in the case of the COVID-19 pandemic, public preschools received special instructions how to implement preventive measures when preschools opened after the lockdown. While the instructions for the COVID-19 period were intended for both private and public preschools, private preschools said they did not formally receive these instructions (e.g. by email), instead they had to gather this information through private contacts. Private preschools felt that they were left on their own in this specific situation.

Impact of COVID-19

All private preschools in Serbia were closed on 16th March 2020 when the state of emergency was declared due to the COVID-19 pandemic. They were then allowed to open again after 11th May 2020. During this time, the City of Belgrade announced that parents would not receive preschool vouchers during the state of emergency, and they advised private preschools not to charge parents. However, most private preschools charged parents partially for March and May and did not charge anything for April.

Once the state of emergency was lifted, re-enrollment levels were low as parents were uncertain about the potential health risks of sending their children to preschool. As a result, many children in Belgrade were deregistered from private preschools and many private preschools have reportedly struggled to remain financially viable.

7.2 City of Kragujevac

Context

Kragujevac introduced the voucher system one year after Belgrade in 2016. The City of Kragujevac decided to subsidize parents in order to incentivise the creation of more preschool places. Prior to introducing the voucher system, the public preschool institution of Kragujevac would receive approximately 2,000 applications per year for only 600 available places.[34] In 2015 there were no private preschools in Kragujevac and in total there were 4,789 children aged 6 months to 6.5 years enrolled in public preschools exclusively.[35]

As with Belgrade and Niš, Kragujevac introduced the voucher system through the *Law of Financial Support to Families with Children*. In 2016, 6 new private preschools opened with 6 branches. In 2018, there were 10 private preschools, while the number of branches increased to 15. The number of children aged 6 months to 6.5 years enrolled in private preschool was 1,692 (29.0%) in 2018, out of s total number of 5,832 enrolled children.[36]

The number of places that the City of Kragujevac subsidizes depends on the amount of money for private preschool education in the City budget. In March 2020 there were 2,228 children

[34] In 2020 there were 671 available place in the official call.
[35] PŠV form, Statistical Office of the Republic of Serbia
[36] PŠV form, Statistical Office of the Republic of Serbia

enrolled in private preschools in Kragujevac and the annual budget for 2020 for private preschool education was RSD 270 million (EUR 2.3 million.)

Enrolling in the voucher programme

Every year in September, there is a call for enrolment in public preschool institutions. Parents apply and they are ranked based on a point system including several criteria; belonging to a vulnerable group, employment, and number of children already enrolled in a public preschool institution. Priority is given to children from vulnerable and marginalised groups as defined in the *Rulebook on Conditions for Determining Priorities for Enrolment of Children in Preschool Institution*[37] (2011) and these children receive the maximum number of points (100 points). The second criterion carrying most points (60 points) is whether parents are employed.

All applicants are ranked based on the points received and the ranking is publicly available. In general, the public preschool admits first, all children belonging to vulnerable groups and second, children with two employed parents and a sibling already enrolled in a public preschool institution. Usually, children with both employed parents, but without enrolled siblings, do not get a place in the public preschool because they do not have sufficient points.

After all places are filled in the public preschool, the City opens a call for all children who have at least a certain number of points (e.g. from 80 to 100 points) to apply for a place in a private preschool institution. After the first round, the City opens a second round of admissions for places in subsidized preschools with a lower threshold than in the first round. This process is repeated after all subsidised places in private preschool institutions are filled. In making their application, parents can express their preference for a particular private preschool, and as long as there are available places in their preferred preschool, the child will gain admission there.

Note that only children whose parents applied for public preschools in the annual call for enrolment can receive a voucher for private preschools. This is in contrast to Belgrade, where

[37] *Pravilnik o uslovima za utvrđivanje prioriteta za upis dece u predškolsku ustanovu* (2011). Službeni glasnik RS, br. 44/2011

parents can apply for a public preschool place at any time of the year and if rejected, receive a voucher regardless of the period of the year.

Fees and the value of the voucher

The economic price of public preschools in Kragujevac is set at RSD 17,130 (EUR 145) and the monthly value of the voucher that parents receive from the City can be at most RSD 13,720 (EUR 116) or the equivalent of 80% of the economic price. In comparison to Belgrade, the maximum value of the voucher is 38.6% lower in Kragujevac. Like Belgrade, the subsidy amount is determined by the number of days that a child attends preschool. For days when the child attends, the value of the daily subsidy is RSD 620 or EUR 5.3 and on days when the child misses preschool the value is 50% of the economic price (RSD 389 or EUR 3.3).

Most private preschools are part of an association of private preschools in Kragujevac and all members of the association charge the same monthly amount. The monthly price of private preschool education is currently set at RSD 19,000 (EUR 161) and it is somewhat higher than the economic price. Parents always pay the same price regardless of their child's attendance, and it amounts to RSD 5,280 (EUR 44.7) per month. Private preschools in Kragujevac emphasized that the economic price in Kragujevac is lower than in some poorer municipalities.

Payment of the voucher

While the subsidy is technically given to the parents, there is an agreement between parents, private preschools, and LSG meaning that the subsidy is directly transferred to the private preschools. Parents transfer their contribution to the private preschool, while the subsidy is transferred from the City budget to the private preschools. Since the value of the subsidy depends on attendance, private preschools must report this data to the LSG.

Regulation of private preschools

Each year the City of Kragujevac has a public call for private preschools who want to enrol children with vouchers. All verified private preschools can apply at this call and all applicants get invited to sign a contract. The annual contract with the City specifies the maximum number of available places in the private preschool institution for a given year.

As described previously, all private preschools have the same obligations and need to meet the same legal requirements in terms of space, equipment, and staff as public preschools. Like Belgrade, private preschools are regularly visited by educational inspectors, but educational advisors from the branch office of the MoESTD are rare. Educational inspectors pay special attention to whether attendance of children is correctly registered, since private preschools have a direct financial incentive to over-report attendance.

Equity

The findings from our interviews suggest that the existing admissions mechanism in Kragujevac permits to admit to public preschools all children considered to be vulnerable and marginalised according to the *Rulebook on Conditions for Determining Priorities for Enrolment of Children in Preschool Institution*[38]. As a result, children whose parents are recipients of financial social benefits, children with special educational needs, and other vulnerable groups are admitted to public preschool institutions. There are very few exceptions of children belonging to vulnerable and marginalised groups who are enrolled in private preschools. Consequently, vouchers for private preschool are typically paid to the least disadvantaged families.

Benefits

Interviewed preschools reported that the voucher increased enrolments and the potential market for preschool, which has enabled them to expand their programmes. Indeed, the voucher system may have created a private preschool sector in Kragujevac, as prior to the voucher system there were no private preschools at all.

Conversely, families are able to enrol their children into preschool even if public preschool institutions are full – although it is possible these families would have enrolled their children into private preschools even if they did not receive the voucher, now that private preschools exist. Even if this is the case, the voucher-system has nonetheless provided the market signal necessary for private preschools to enter the market.

[38] *Pravilnik o uslovima za utvrđivanje prioriteta za upis dece u predškolsku ustanovu* (2011). Službeni glasnik RS, br. 44/2011

The City of Kragujevac has also increased enrolment. It has done so in a cost-efficient way, as the voucher-system has been less expensive than expanding the capacity of the public system. Under this system, the City pays approximately RSD 10,000 (EUR 84.7) for each child enrolled in a private preschool, whereas this amount is higher for public preschools.

Relationship between LSG and private providers

Both private preschools and the LSG are very satisfied with the existing co-operation. Private preschools appreciate that payments for the parental contributions are always made on time. With regards to improvement, the private preschools wish to have regular meetings with representatives of the LSG and/or the branch office of the MoESTD to discuss their specific issues. Such meetings are organized with public preschools, but private preschools are not included.

Impact of COVID-19

In Kragujevac, the City decided not to provide any subsidies to private preschools during the state of emergency, and private preschools collectively agreed not to charge parents the monthly contributions for the period of the state of emergency. The impact on the financial viability of these schools during this period is unclear. As in Belgrade, re-enrolment rates have reportedly been low, as parents' deregistered their children out of concerns for safety.

7.3 City of Niš

Context

In Niš the subsidy mechanism for private preschools was introduced in 2016. The financing model in Niš is similar to the models in Belgrade and Kragujevac, and was also introduced through the *Law of Financial Support to Families with Children*. In 2015, there were 3 private preschools with 7 branches which enrolled 189 children aged 6 months to 6.5 years, out of 7,056 enrolled children in total. In 2018, there were 4 private preschools with 12 branches and they enrolled 396 children out of a total of 7,296 children enrolled.[39] According to our

[39] PŠV form, Statistical Office of the Republic of Serbia

interviews, in 2020 there were 550 children enrolled in preschool education in Niš through the voucher system, and there were still 1,780 children on the waiting list for public preschools.

The number of subsidized places depends on the amount allocated in the budget of the City. In 2019 the City of Niš allocated RSD 78 million (EUR 661,000) for parental subsidies for private preschool education. In 2020 this amount increased to RSD 100 million (EUR 847,000).

Enrolling in the voucher programme

The City of Niš makes an annual call for enrolment in public preschool institutions for children who will start preschool in September. Parents apply and are ranked based on several criteria including; belonging to a vulnerable or marginalised group, employment, and number of children enrolled in a preschool institution. After the ranking of children is completed, and admitted children get enrolled in public preschools, parents of non-admitted children can apply for subsidies for private preschools.

The criteria for receiving a subsidy for preschool education are more stringent in Niš than in Belgrade or Kragujevac. Like Belgrade, in Niš both parents must be citizens of Serbia, must have their residence in Niš, and their child must be officially registered on the waiting list. In addition, both parents must be formally employed, and the monthly income of the household should not exceed RSD 40,000 or EUR 339 per household member. Finally, the child must already be enrolled in a private preschool institution that has signed a contract with the City.

If all requirements are fulfilled, parents are granted a subsidy for private preschool education until the next annual call for enrolment (at the end of August). Each year parents need to reapply for admission and need to fulfil all criteria. If any of the aforementioned criteria change during the year (e.g. a parent becomes unemployed), parents should report this change to the City, and then they automatically lose the subsidy.

Fees and the value of the voucher

The economic price of public preschools in Niš is set at RSD 21,830 (EUR 185) per month and the value of the voucher that parents receive for private preschools can be at most RSD 14,289 (121 EUR) per month (or 65% of the economic price). For days when the child attends preschools, the City pays the full value of the voucher (RSD 650 or EUR 5.5). If a child is

absent 5 days or less, the City still pays the full value of the voucher. However, if the child is absent more than 5 days, then the City covers 50% of the economic price (RSD 496 or EUR 4.2). Parents need to justify any absence from preschool by proving that their child was either sick, or that a parent was on holiday in that period. This implies that parents need to provide proof for their children's absences each month, and if they do not do so, they can lose the subsidy.

The parental contributions for private preschool in Niš are fixed, and they are the same amount as public preschools.

Payment of the voucher

While the subsidy is technically granted to parents, the City of Niš transfers the subsidy to the private preschool institutions. Prior to receiving the transfer, private preschool institutions need to submit attendance lists and provide proof of absence for all children.

Regulation of private preschools

Like Kragujevac, the City of Niš makes an annual call for private preschools who want to enrol children with vouchers. All verified preschools can apply, and all applicants get invited to sign a contract with the City. The contract specifies the maximum number of children that a private preschool can enrol.

As above, private preschools are subject to the same quality standards as public preschools, and they are supervised by public officials. Preschools reported that the educational inspectors visit private preschools on a regular basis, and check whether all laws and regulations related to preschool education are respected. While the educational advisors used to visit private schools more often in the past, their visits have become less frequent.

Equity

The eligibility criteria for the voucher programme means that only children of working parents can receive the subsidy to attend private preschools. Consequently, those families that are ordinarily in the greatest need of support – i.e. those receiving social benefits, or from vulnerable and marginalised families – are excluded from the programme. This arrangement

implies that the purpose of the voucher programme is not to increase access to marginalised families.

Benefits

The impact of the voucher system in Niš has been relatively muted; since the introduction of the system, there has been a small increase in the number of private preschools and branches, and a relatively small increase in preschool enrolments. Consequently, there is still a relatively long waiting list for public preschools. Nonetheless, the provision of preschool to those families that do access the voucher programme has been more cost-efficient for the LSG than if those services were provided by a public institution.

Families with working parents have also benefited from having access to preschool, even when the public preschool system is full. The private preschools interviewed also reported greater financial stability due to the programme, since prior to the voucher system parents would deregister children from private preschools in the winter holidays and/or during the summers in order to save money. This has decreased, implying that these children will also have greater exposure to preschool education.

Relationship between LSG and private providers

The private preschools interviewed were very satisfied with their partnership with the LSG and they emphasised that they receive the parental subsidies from the LSG within the specified deadline. Private preschools formed an association of verified private preschools and they meet with the representatives of the LSG on a regular basis. When unexpected problems or issues arise, for instance as in the case of the COVID-19 pandemic, the representatives of preschools and the representatives of the LSG meet to solve problems together.

However, private preschools stated that the paperwork to justify absences is very time consuming for parents and they believe that there should be ways to improve this process.

Impact of COVID-19

In Niš, private preschools received 50% of the subsidy for the period of the state of emergency and parents did not pay anything for this period. The private preschools interviewed did not

anticipate that re-enrolment would be a challenge. This is because all parents who receive a voucher are employed and are therefore less likely to be able to keep their children at home.

7.4 Comparative analysis of equity and impact

The three case studies of Belgrade, Kragujevac, and Niš together provide valuable insight into the functioning of the voucher-system. The three approaches are very similar; all three use the same 'voucher' mechanism to fund a proportion of the economic cost of preschool, and this was introduced at similar times (2015-2016) and through the same regulation. Table 26 summarises the comparative size of the subsidy in each city.

Table 27: Size of voucher in each case study in 2018

	Economic price	Voucher value as % of economic cost	Maximum voucher value	Parental contribution
Belgrade	RSD 27,950 (EUR237)	50% - 80%	RSD 13,975 (EUR 118.4) - RSD 22,360 (EUR 189)	RSD 5,590 (EUR 47.4) - RSD 13,975 (EUR 118.4)
Kragujevac	RSD 17,130 (EUR145)	50% - 80%	RSD 8,565 (EUR 72.6) - RSD 13,720 (EUR116)	RSD 5,280 (EUR 44.7)
Niš	RSD 21,830 (EUR185)	50% - 65%	RSD 10,915 (EUR 92.5) - RSD 14,289 (EUR121)	RSD 4,028 (EUR 34.1)

Note: * The value of the voucher depends on the attendance of the child. In Belgrade the parental contribution depends on attendance, while in Kragujevac and Niš it is fixed. Source: MoESTD data. Authors' calculations.

7.4.1 Equity

These similarities provide an effective basis for considering key differences between each case study in terms of equity.

The first difference has to do with whether the voucher is paid directly to families or to preschool institutions. While Kragujevac and Niš give the funding directly to the preschool, and do so on time, Belgrade repays the family directly 1-2 months after the fees have been paid. This aspect of the system in Belgrade disadvantages poorer families, who struggle to front the fees for a private preschool so long in advance. This disadvantage is compounded by the value of the voucher being reduced for each day that the child is absent, since during this time the parent will still be paying the full fees to the preschool.

The second key difference is the eligibility criteria for families to receive the voucher. In all three cities, families are only eligible if they have been unable to secure a place in a public preschool, and if they are Serbian citizens and residents of the city in question. In Belgrade, these are the only conditions. In Kragujevac, families are ranked based on vulnerability and marginalisation, and the most disadvantaged families are prioritised in receiving the voucher once public preschools have reached capacity. In Niš, the focus is not on vulnerability and marginalisation in general; instead, the families are only eligible if both parents are working and earn below a certain amount. Between these three systems, Kragujevac is the most equitable as it explicitly prioritises the most disadvantaged families. Niš is the least equitable, such that families lose their voucher automatically if either parent becomes unemployed.

7.4.2 Impact

Table 30 provides an overview of the effect of voucher introductions on preschool enrolment of children aged 6 months to 6.5 years in these three LSGs.

Table 28. Overview of the effect of voucher effect for children age 6 months to 6.5 years in Belgrade, Kragujevac and Niš

	2015	2016	2018
Belgrade			
Enrolled in PSE	62,767	65,239	71,197
Enrolled in private PSE	4,911 (7.8%)	7212 (11.1%)	15,180 (21.3%)
Number of private PSE	72 PSE (85 objects)	113 (135 objects)	211 PSE (290 objects)
Total annual preschool expenditure (excluding capital investments, paid penalties and expenditures on private PSE)			RSD 10,413,626,292 EUR 88,251,070
Total voucher value (annual) for private PSE at 50% (% of total annual PSE expenditures)			RSD 2,545,686,000 (24.4%) EUR 21,567,744
Total voucher value (annual) for private PSE at 80% (% of total annual PSE expenditures)			RSD 4,073,097,600 (39%) EUR 34,428,240
Kragujevac			
Enrolled in PSE	4,789	5,380	5,832
Enrolled in private PSE	None	649 (12.1%)	1,692 (29%)

Number of private PSE		6 PSE (6 objects)	10 PSE (15 objects)
Total annual preschool expenditure (excluding capital investments and paid penalties)	Not available	Not available	Not available
Total voucher value (annual) for private PSE at 50%			RSD 173,903,760 EUR 1,474,070
Total voucher value (annual) for private PSE at 80%			RSD 278,570,880 EUR 2,355,264
Niš			
Enrolled in PSE	7,056	7,059	7,296
Enrolled in private PSE	189 (2.7%)	321 (4.5%)	396 (5.4%)
Number of private PSE	3 PSE (7 objects)	4 PSE (10 objects)	4 PSE (12 objects)
Total annual preschool expenditure (excluding capital investments and paid penalties)			RSD 833,774,991 EUR 7,065,890
Total voucher value (annual) for private PSE at 50% (% of total annual PSE expenditures)			RSD 51,868,080 (6.2%) EUR 439,560
Total voucher value (annual) for private PSE at 50% (% of total annual PSE expenditures)			RSD 67,901,328 (8.1%) EUR 574,992

Notes: City of Belgrade introduced voucher system in 2015, while Kragujevac and Niš introduced it in 2016. Source: PŠV datasets and financial reports of a selected number of LSGs. Authors' calculations.

In Belgrade, the total annual voucher value to the LSG for parental subsidies of private preschool education in 2018 was between RSD 2.5 and RSD 4.1 billion (EUR 22 – EUR 34 million), which was between 24.4%-39% of the total expenses in preschool education in 2018. In Kragujevac, the total annual voucher value to the LSG for parental subsidies of private preschool education in 2018 was between RSD 174 and RSD 279 million (EUR 1.5 – EUR 2.4 million) in 2018. The total annual voucher value to the LSG for parental subsidies of private preschool education in 2018 was between RSD 52 and RSD 68 million (EUR 439,560 – EUR 574,992), which was between 6.2%-8.1% of the total expenses in preschool education in Niš in 2018. In comparison, in 2019 the City of Niš allocated RSD 78 million (EUR 661 thousand) for parental subsidies of private preschool education. In 2020 this amount increased to RSD 100 million (EUR 847 thousand).

Two to three years after its introduction, the vouchers enabled that percentage of children enrolled in private preschools to be 21.3% Belgrade (increase of 13.3 percentage points of

children enrolled into private PSE), 29% in Kragujevac (increase of 17 percentage points of children enrolled into private PSE) and 5.4% in Niš (increase of 2.7 percentage points of children enrolled into private PSE). Table 29 represents to share of children enrolled in private education between 2015 and 2018.

Table 29: Share and number of pupils enrolled in private education from 2015 to 2019

	2015	2016	2017	2018	2019
Belgrade	7,8% (4,911)	11,4% (7,461)	17,5% (12,150)	21,6% (15,545)	24,2% (17,766)
Kragujevac	0% (0)	12,1% (649)	21,8% (1,225)	29% (1,692)	36,7% (2,303)
Niš	2,7% (189)	4,5% (321)	7,3% (525)	5,4% (396)	7,7% (564)

Note: * Age group is 6 months to 6.5 years. Source: PŠV and SoRS projections data. Authors' calculations.

There are also notable features in the growth of the private sector vis-à-vis total enrolments after the voucher systems were introduced in each case.

- In Belgrade, the number of children enrolled in all preschool institutions increased from 62,944 in 2015 prior to the voucher system, to 71,809 in 2018 (i.e. an increase of 8,865). The number of enrolments in private preschools increased from 4,911 in 2015 prior to the voucher system, to 15,545 in 2018 (i.e. an increase of 10,634). This would suggest that the increase in enrolments was due to the growth of private preschools, and despite a decrease in capacity in public preschools.
- In Kragujevac, the number of children enrolled in preschool increased from 4,789 in 2015, to 5,832 in 2018 (i.e. an increase of 1,043). There were no private preschools operating in 2015, but this changed after the introduction of the voucher system. In 2018, private preschool enrolments were 1,692. As with Belgrade, this would suggest that the increase in enrolments was due to the growth of private preschools, and despite a decrease in capacity in public preschools.
- In Niš, the number of children enrolled in all preschool institutions increased from 7,056 in 2015, to only 7,296 in 2018 (i.e. an increase of 240). The number of enrolments in private preschools increased from 189 in 2015 prior to the voucher system, to 389 in 2018 (i.e. an increase of 200). This would suggest that the increase in enrolments, although small overall, was in large part due to the growth of the private sector as well as marginal growth of the public sector.

Niš had the smallest increase in enrolments. This may be because it had the most exclusionary conditions for the voucher, or because a limited number of vouchers were made

available. In comparison, Belgrade had the largest increase in enrolments. This may be because it had the least exclusionary conditions, as well as the largest budget for the voucher programme. In both cities, this is true of both total enrolments and private sector enrolments.

It is also worth noting that the growth of the private sector does not necessarily mean a decrease in public capacity. This is because families are only eligible for the voucher if the public system is already full, and thus the voucher does not steer families away from empty public places. According to the budget execution data for Belgrade and Niš for the period 2016 to 2018, the introduction of the voucher system did not decrease funding for public preschools. In fact the funding of public preschools increased in both cities over the observed period while the number of pupils enrolled in public kindergartens rose slighly in Niš and dropped in Belgrade.

8 Summary of equity and inclusion in the current context

In this section, we summarise the findings from Sections 4 - 6 in order to draw general conclusions about the equity and inclusion dimensions of the current PPP context. This will provide the basis for the prospective models of PPP considered in the second half of this report.

We begin with reviewing the findings on access and capacity (8.1) and private sector participation (8.2). We consider what can be learned from the case studies (8.3) and summarise the relevant findings on regulation relevant to private preschools and PPPs (8.4). We conclude with recommendations (8.5) that will be further developed in the remainder of the report.

8.1 Access and capacity

Although the enrolment rate for compulsory preschool is very high (97.8%) overall, the enrolment rate for non-compulsory preschool is much lower (51.7%). Across all municipalities, occupancy rates for current preschools are between 94.2% and 97.7%. A substantial increase in capacity will therefore be required to achieve universal enrolment.

The necessary growth in capacity varies considerably between municipalities based on their level of development. The largest number of *unenrolled* children are in the most developed municipalities, due to significantly higher population density. These municipalities account for 43% of all unenrolled preschool children. In contrast, the very poorest municipalities account for only 7% of unenrolled preschool children, despite these municipalities having the lowest enrolment rates. In sum, there is a need to increase capacity across *all* municipalities, including in the wealthiest municipalities. Our projections of demand over the next ten years suggest that this is unlikely to change significantly.

There appear to be stark inequalities in access in the preschool system. As described above, enrolment rates are correlated with the level of municipal development, and they are especially low in the poorest municipalities. Moreover, vulnerable and marginalised families – such as those reliant on social benefits, with disabilities, or from ethnic minorities – seem

to be significantly under-represented in preschool enrolments. This is not a novel finding; it has been well-documented in other literature.

8.2 Private sector participation

Private preschools constitute a small but significant share of the preschool sector. However, this is almost entirely a phenomenon of the most developed municipalities, and outside of these municipalities the share of private preschools drops below 1%. Even within the most developed municipalities, private preschools seem to primarily be a phenomenon of LSGs that introduced a voucher system. In these municipalities in 2018, private providers made up 37.4% of preschools, compared to 3.4% in developed municipalities without a voucher system. Indeed, 90.6% of all private preschools are in developed LSGs that use a voucher system.

Consequently, any effort to increase private sector participation would need to pursue at least two different strategies. The first strategy would need to address how to grow the existing private preschool market in developed municipalities. The second strategy would need to address how to effectively create a market for private preschools in all other municipalities. This is elaborated in the second half of this report.

Nonetheless, in both instances, the extent to which the private sector would have to grow in order to realise universal enrolment is immense. Across Serbia as a whole, the number of private preschools alone would need to increase by 439% in order to reach universal enrolment. Consequently, it is likely that achieving ambitious targets for enrolment will require substantial investment in both the public and private sectors.

8.3 Case studies

Our case studies of the Cities of Belgrade, Kragujevac, and Niš suggest that the rapid growth of the private preschool sector is possible through the use of public-private partnerships. Private sector enrolment in Belgrade nearly tripled after the introduction of the voucher system, eventually constituting 20.7% of all enrolments. In Kragujevac, the voucher system appears to have contributed to the creation of a private market sector where there was not one before. In both Belgrade and Kragujevac, the private preschool sector has been responsible for the increase in enrolments overall, and has offset a decrease in the capacity

of the public sector. The generalisability of this should be considered with caution, however, as all three of these case studies involve municipalities that are among the most developed.

In addition, the voucher system in these municipalities has been a cost-efficient means of expanding enrolment for the LSGs. By relying on private providers, the LSGs did not have to invest in expanding the capacity of the public preschool system. In addition, the funding provided by the LSGs to the private sector was between 65% and 80% of the cost of provision per child in the public sector.

Nonetheless, **equity remains a key concern**. One consideration for equity is the eligibility criteria for receiving the voucher. The most equitable system would prioritise vulnerable families foremost, as is already the case in the public-school system. This is the approach undertaken in Kragujevac. Conversely, requiring both parents to be employed in order to receive the voucher is inequitable. Another consideration for equity is the payment of the voucher. Paying the voucher directly to parents, 1-2 months after they have already paid the fees, created significant challenges for poor families.

8.4 Regulation

Private preschools are subject to much of the same regulations as public preschools. Both public and private preschools are required to meet the same standards of structural quality, such as group sizes and teacher qualifications. There is also an ongoing standardisation of curricula, and by September 2022 all preschools (both public and private) are anticipated to use the same national curriculum. Both public and private preschools are also subject to oversight from the LSG and MoESTD, and both receive regular inspections ensuring that they meet the basic standards. However, in practice private preschools are subject to less pedagogical oversight than public preschools. The reasons for this are unclear, as such visits are at the discretion of regional branches of the MoESTD.

The key difference in the regulations concerning public and private preschools has to do with equity: while public preschools are legally required to prioritise vulnerable and marginalised families, this does not apply to private preschools. This is not unusual compared to the country case studies outlined in Section 3, primarily because vulnerable and marginalised families have prioritised access to public schools. Nonetheless, some countries – such as Norway – require both public and private preschools to prioritise vulnerable and

marginalised families. In Serbia, even within the obligations that bear on public schools, children from Roma families are not given priority based on their ethnicity but rather on other factors of disadvantage such as the receipt of social benefits. While this is not necessarily a problem, it is relevant given that the motivation of this study is to increase access to marginalised ethnic groups (specifically the Roma). In neither public nor private preschools are there specific considerations for these groups.

There is little regulation directly governing the use of PPP arrangements with private preschools. Consequently, LSGs exercise considerable autonomy in how they do so. On the one hand, this has enabled innovation without requiring substantial regulatory reform – such as in the case of the voucher system. Conversely, it likely means that such innovations are applied unequally and unsystematically.

8.5 Recommendations

The remainder of this report will consider possible models of PPP. We summarise this portion of the report by drawing general recommendations that any such model would have to address.

The international literature on the effectiveness of PPPs suggests comparatively positive evidence in favour of the impact of subsidies for private providers on children's learning outcomes and enrolment. The evidence of vouchers on private management initiatives was much more mixed. Critically, subsidy programmes were especially effective at improving education equitably when they were targeted at schools in rural or which served predominately poor and marginalised families.

In almost all of the case studies on other European countries, the state partnered with the private sector through either voucher or subsidy programmes. Slovenia was the only exception; while they primary used a subsidy system, they also had a marginal number of concession schools. In all case studies, the management of private providers was devolved to a local-government level (expect in Austria). Provisions for equity also vary considerably, but in most instances vulnerable and marginalised children (such as those with disabilities, or from poor families) are given priority. This priority may be in admission if the number of spaces available is otherwise limited, or additional funding – either through a comparatively larger voucher for vulnerable and marginalised families or more funding for poorer

municipalities. In most of the case studies, quality was defined by government regulations and is determined by educational inputs, such as class sizes and staff qualifications, rather than outcomes. This is similar to most other countries in Europe.

As described above, voucher systems appear to have been very effective in increasing enrollment in preschool in Serbia. However, these experiences also yield valuable lessons. Specifically:

1. **In order to expand enrolment overall**, any model of PPP would need to include the most developed municipalities as these hold the largest numbers of unenrolled children;
2. **In order to increase enrolment rates equitably**, any model of PPP would need to address how to create a market for private preschools in less developed municipalities where there are currently no such markets;
3. **In order to expand access substantially**, the eligibility criteria for families should be inclusive while maintaining the principles of equity;
4. **In order to ensure access to private preschool provision is equitable**, any model of PPP should prioritise families by their level of disadvantage and be sensitive to the cash flow constraints of vulnerable and marginalised families;
5. **In order to ensure that the education provided is of sufficient quality**, any model of PPP is reliant on the visits of pedagogical supervisors which currently seem to neglect private preschools.

9 Models

We begin the third section of this report with a list possible models of public-private partnership. In Section 8, we review the regulatory reform that would be necessary to accommodate each of the short-listed models. In Section 10, we speak to LSGs and private preschool providers about these models. We undertake a comprehensive analysis of each of the shortlisted models in Section 10. In Section 12, we provide our final recommendations.

In this section, we consider candidate models for PPP to promote equitable access to preschool in Serbia. In formulating these models, we have drawn on the available evidence internationally (in Section 2), case studies from other countries (in Section 3), the analysis of the current situation in Serbia (in Sections 5 and 7), and case studies of PPPs for preschool in Belgrade, Kragujevac, and Niš (in Section 6).

Broadly, we consider 3 types of model, with 10 variations in total.

1. **A voucher system for eligible parents (Section 8.1);**
    a. In Model 1A, vouchers would only be redeemable at private preschools;
    b. In Model 1B, vouchers would be redeemable at private preschools as well as with private family nurseries.

2. **A subsidy for private preschools (Section 8.2);**
    a. In Model 2A, the subsidy, for private preschools in any municipality, would be linked to the number of teachers;
    b. In Model 2B, the subsidy, for private preschools in any municipality, would be provided per child;
    c. In Model 2A* and 2B*, the subsidy, whether provided per teacher or per child, would be limited to private preschools in less developed municipalities (i.e. Groups 2-5);
    d. In Model 2C, the subsidy is provided as an initial ‘start-up’ grant.

3. **Concessions of private preschools (Section 8.3);**
    a. In Model 3A, selected private providers in eligible municipalities would receive substantial support from the government which may extend to the funding of salaries and infrastructure (i.e. a large concession);
    b. In Model 3B, the LSG would provide select private preschools with preferential access to facilities, such as through lower rent (i.e. a medium concession);

c. In Model 3C, the LSG would underwrite a minimum number of places for selected private providers in eligible municipalities (i.e. a small concession).

We outline how each variation would work, how operational risk is shared between public and private institutions, and the advantages and disadvantages of each variation. We conclude this section by rejecting two models: the salary-linked subsidy open to private preschools in all municipalities (Model 2A), and the large concession (Model 3A).

9.1 Vouchers (Model 1)

As described in Section 2, in a voucher system the LSG would provide eligible families with a voucher that can be redeemed at a verified private preschool. In theory, vouchers increase access in the short-term by making preschool more affordable for families, and in the long-term once preschools increase their capacity to accommodate the new demand.

9.1.1 Model 1A: A voucher redeemable at private preschools

In this variation, the LSG would give a voucher to eligible families that can be used to cover a portion of the costs of enrolling their child in a private preschool. This is the same basic model that is currently in effect in Belgrade, Kragujevac, Niš, and Novi Sad.

Options

The voucher may cover the full costs of preschool, or otherwise only a portion of the total costs. In Belgrade and Niš, the voucher is valued at 50% - 80% of the economic cost of preschool. In Kragujevac, it is valued at 50% - 65% of this cost. The most equitable option would be to cover as large a portion of the economic cost of preschool as possible, since this would reduce the fee burden for families.

The eligibility criteria for families to access the voucher may be more or less exclusionary. A key criterion for the voucher in all three of the case studies was that the child must have been unable to enrol in a public preschool institution. We consider an alternative to this criterion in Model 2B, in which the subsidy, for private preschools in any municipality, would be provided per child. Regarding other criteria, the most equitable option would be to prioritise the vouchers based on the **level of disadvantage.**

The voucher may be paid directly to either the preschool or the families. The most equitable option would be for the voucher to be paid to the preschool, as poor families are likely to struggle to advance the necessary fees.

The contract for the voucher with the LSG may be with the family or the preschool, or both. An advantage of requiring each family to have a contract with the LSG is that it enables families to move more freely between preschools if they are dissatisfied with the service they receive. An advantage of the LSG only having a contract with preschools, conversely, is that it reduces the number of contracts in which the LSG is a party. This decision depends on the financial capability of the LSG.

Finally, the voucher may be paid as a flat amount, or linked to attendance. While the former is administratively simpler, the latter may be more cost-effective and encourage attendance. This is a complex consideration. We consider the impact of preschools and families, depending on whether the voucher is paid to the preschool or to families.

> If the voucher is paid to families based on attendance, then families lose financially when they are unable to send their child to preschool since they are still required to pay the same monthly fees to the preschool. While this may provide an incentive to send one's child to preschool, it also penalises families who keep their children at home for legitimate reasons (such as if the child is sick).
>
> If the voucher is paid to preschools based on attendance, then the preschools lose financially if families keep their children at home. This is because the primary operating expense (i.e. teacher salaries) remain the same even if a child is absent. This strategy is ineffective as an incentive to increase attendance since preschools have limited control over families' decisions in this regard.

In sum, there are risks to equity if the value of the voucher is linked to attendance. The most administratively simple option would be to pay the voucher as a flat amount irrespective of attendance. An alternative option would be to require families to provide legitimate reasons for children's absence, especially over a certain number of days, such as in Niš. Although administratively more complex, an advantage of this alternative is that it reduces the risk that families will take the voucher while also keeping their child at home.

Operational risk

There is limited operational risk in this variation for the LSG, families, and private providers. The LSG provides funding based on actual enrolment and attendance, and thus does not risk providing funding for a service that does not materialise. For the LSG, a voucher system is also less risky than constructing new facilities to extend supply. While new facilities may cost more than anticipated, the voucher is provided at a fixed per child rate. With a voucher system, the LSG also avoids the risk of misjudging demand and thus having built facilities that are not used at capacity.

There is also limited risk for families. The voucher is only redeemable at verified private preschools, which have met the necessary standards, and which are accountable to the LSG for the quality of service they provide. Moreover, the voucher enables families to move to another private preschool if they are dissatisfied with the service they receive.

Private preschools carry the largest proportion of the risk, although this is still limited. Private preschools are expected to increase their capacity in response to the growth in demand facilitated by the voucher; consequently, they risk wasting this investment if the voucher system is then abandoned by the LSG. For this reason, it is important that the LSG provide policy certainty for private providers.

General advantages

Model 1A (a voucher redeemable at private preschool applicable to all municipalities) has several advantages. Since it is already being delivered within Serbia, there is already institutional knowledge on how to implement the model in-country, and since it has been delivered in multiple settings, it is possible for municipalities to learn from each other. This variation is also possible under the current regulatory framework, and it would not depend on any further regulatory reforms. Finally, there is already some indication that this variation is effective in Serbia. In Kragujevac and Niš, the introduction of the voucher system appears to have led to an increase in both private preschools and preschool enrolments overall at a lower cost than public provision. While it is important to note that in Belgrade the voucher system was not necessarily cheaper for the LSG per child than public provision, this is mainly due to the formation of the economic price of preschool in Belgrade discussed previously.

Furthermore, the conditions of the voucher ensure that it is only spent on children who would not have otherwise been enrolled in the public system. A key advantage of this is that the introduction of the voucher system will not incentivise children to abandon public preschools; rather, the variation only benefits those children who would otherwise not have been enrolled in any preschool.

The use of a voucher also grants families a degree of 'client power', as they can change preschool if they are dissatisfied. This is theoretically important for holding private preschools accountable. However, this advantage is undermined in contexts where there is only one private preschool.

General disadvantages

The key disadvantage of this model relates to its applicability in less developed municipalities (i.e. Groups 2-5). Since it has not yet been applied in such municipalities, there is a great deal of uncertainty. It may be that the value of the voucher is insufficient for the financial viability of small preschools, which may have higher costs per a child due to smaller class sizes and fewer classes overall. This would limit the effectiveness of the variation in areas with low-population density, or where there is not currently a market for private preschools. Furthermore, administering the voucher system may be complicated, and beyond the capabilities of municipalities with fewer resources.

There is also a degree of inefficiency in this model, depending on the eligibility criteria for families. In Belgrade, for example, the key criterion is rejection from the public preschool system, and social disadvantage is not considered. Under these conditions, families who are already enrolled in private preschools, or who would be able to afford to enrol their children in private preschools irrespective of the subsidy, are still eligible for the voucher. This is technically 'inefficient'; although the variation may increase enrolments, a proportion of the public funding is being spent towards subsidising children who would have been enrolled regardless. Inefficacy of this nature can be reduced or removed if social disadvantage is an eligibility criterion, such as in Kragujevac.

Finally, this model may not address many of the reasons why there are so few private preschools and why preschool enrolment overall is relatively low. There may be other reasons that families do not enrol their children, such as the availability of free alternatives

for childcare, the belief that preschools provide lower quality than homecare, the belief that early education is unnecessary, or fears of discrimination. There may also be other reasons why prospective proprietors do not open preschools, such as difficulties in meeting the bureaucratic requirements.

9.1.2 Model 1B: A voucher redeemable at private preschools and with private family nurseries

This would be the same model as above; however, the vouchers would also be redeemable with family nurseries. This is a model delivered in Latvia, reportedly with success. This has been summarised in Section 3.3.2.

Family nurseries would serve small numbers of children (e.g. 1 – 4). This may be in their own house or other facility, on the condition that the venue meets certain safety and hygiene standards and is licensed to provide food. Staff in family nurseries would need to have certain qualifications, considered below, and register with the LSG. The LSG would be responsible for verifying and monitoring registered family nurseries. The value of the voucher for family nurseries would not necessarily be the same as the voucher for preschools, and the economic cost of provision through family nurseries would need to be determined. In this model, family nurseries would not need to be affiliated with an established preschool institution.

Options

In addition to the options considered in Model 1A (a voucher redeemable only with private preschool providers), the following considerations are relevant.

Teachers in family nurseries may need to have the same qualifications as preschool teachers, or they may be permitted to be less qualified. In Latvia, for example, childminders are required to complete a 40-hour course that was developed and offered by colleges for this purpose. Ideally, this qualification should include techniques for stimulating early learning as well as other aspects of childcare and first aid. The trade-off is between quality and accessibility; requiring higher qualifications will yield better quality preschool provision, while lower qualifications will enable more childminders to enter the programme and thus increase access to preschool.

In addition to having been rejected from a public preschool, families may also only be eligible for a voucher redeemable with a family nursery if they are also unable to access a private preschool. This is chiefly a consideration if there is a difference in quality between preschools and family nurseries. If so, such a criterion would ensure that families are only accessing a family nursery if there is no better alternative for ECE.

The value of the voucher may vary depending on the quantity of childcare provided, or the voucher may require a minimum number of contact hours. In Latvia, childminders were only eligible for the voucher if they provided a minimum of 45 hours of childcare per week. Although permitting fewer hours may enable greater flexibility for family nurseries and families, it would likely be easier for LSG to confirm whether full-time care is being provided.

Operational risk

There is slightly more risk in this model than the voucher model restricted to private preschool providers.

For the LSG, the risk is much the same; the voucher is paid on actual enrolment, the cost is fixed per child, and it is not necessary to build new facilities. While there is a risk that families and family nurseries may collude to receive the voucher fraudulently, the potential cost of this is limited since the voucher is restricted per child and only to those children unenrolled in either public or private preschools.

For families, there is slightly more risk insofar as the LSG may struggle to monitor the quality of family nurseries. This increases the risk to child safety. Consequently, families assume more responsibility for vetting family nurseries. Nonetheless, families are still able to change family nursery if they are dissatisfied with quality.

For family nurseries, the risk is relatively minor since, unlike preschools, this model would not require the construction of additional facilities. Nonetheless, family nurseries may still need to invest in minor renovations to ensure compliance with health and safety standards, incur some expenses in the registration process, and invest in the necessary qualifications.

General advantages

In addition to the advantages of a voucher system for private preschools, this variation has several benefits. It would increase access to ECE for families who are unable to access preschool, whether through public or private institutions. This would be especially relevant in areas with low-population density that may be unable to sustain a full preschool. It would also enable the participation of proprietors who are unable to afford the start-up costs associated with a fully-fledged preschool, especially given the expense entailed in refurbishing preschool facilities. It is worth noting that this model was popular with urban municipalities in Latvia, suggesting that the benefits are not limited to rural areas.

Moreover, this model would professionalise existing childminder services, as the participation in the voucher system would require staff at family nurseries to complete a professional qualification. This would improve the quality of service that is already being provided by childminders at present[40]. This model also provides opportunities for skilled and socially useful self-employment for otherwise unemployed people. This, in turn, provides an incentive for lifelong learning and requalification.

General disadvantages

Model 1B (i.e. a voucher redeemable with both private preschools and family nurseries) has three key disadvantages, which relate to quality, compliance, and cost.

The quality of ECE provided by family nurseries is likely to be significantly less than that provided by preschools, owing to the lower qualification level required. This may be a threat to educational equity if family nurseries are systematically more likely to serve more vulnerable and marginalised families. This concern is mitigated if a criterion for the voucher is the inability to access any preschool institution; if so, this model would reduce educational inequality if it enabled access to qualified ECE provision to children who would otherwise have no such access. Nonetheless, if there is a significant difference in quality between family nurseries and preschool, then childminders should not be pursued as an alternative to universal access to preschool in the long-term.

[40] There is unfortunately limited information available about the state of the childminder sector in Serbia. It is currently outside of the remit of preschool, as it is governed by the Minsitry of Social Welfare, and it concerns children under the age of 3-years.

Moreover, family nurseries are likely to be more difficult to monitor than preschools. This is because there may be many more family nurseries than preschools, and they may be more widely dispersed. Childminders in Latvia, for example, are only visited by the LSG if there has been a complaint from a parent; otherwise, childminders are not systematically monitored after their initial verification. There is a risk to both quality and child safety if family nurseries are subjected to limited oversight. Moreover, there is a risk of collusion, as families and family nurseries may agree to split the proceeds of the voucher without engaging in the service. This was acknowledged as a risk in Latvia, but the practice was not believed to be widespread.

Finally, the economic cost of this programme may be higher than preschool provision. In Latvia, the national government contributed EUR150, the municipality contributed a further EUR180, and it was expected that the family would pay the childminder an additional EUR70 each month. This implies that the economic cost per child in Latvia is EUR400, of which 82.5% is subsidised by the government. This may be lower in Serbia; if we assume that a family nursery with one staff member has a median income (EUR621) and include the cost of providing lunch[41] (EUR231), then the economic cost for each child is EUR213. In either case, this is higher than the current economic cost of preschool provision in Serbia, which is set at between EUR145 and EUR185 in the three case studies[42].

9.2 Subsidies (Model 2)

As described in Section 2, in a subsidy system the LSG would provide subsidies to private preschools. While a voucher system focuses on the eligibility of the family, subsidies are provided based on characteristics of the preschool such as the number of teachers

[41] This is calculated as 310 dinars multiplied by 4 children and 22 days.
[42] Comparison of Serbian and Latvian economies on https://countryeconomy.com/ shows that GDP per capita was $7,430 (Serbia in 2019) vs. $18,033 (Latvia in 2018), education expenditures as a percentage of the total budget were 9.26% (Serbia in 2017) vs. 12.89% (Latvia in 2016), while education expenditures per capita were $233 (Serbia in 2018), which is approximately 3.1% of GDP per capita, vs. $664 (Latvia in 2016), which is approximately 3.7% of GDP per capita. Although Serbia has a significantly lower GDP per capita than Latvia, education expenditures as a percentage of GDP per capita seems comparable (3.1% in Serbia vs. 3.7% in Latvia), while Baucal et al. (2016, p.61) show that they are also comparable with respect to the annual public expenditure for public educational institutions of about 2000 PPS (purchasing power standard) per child. Together with Estonia, this is the lowest among the EU countries. The same authors suggest that "this difference would have been even more pronounced if EU data included cost for ECEC being more expensive."

employed, or children enrolled. Subsidies can take two forms: an initial start-up subsidy or grant, which is a once-off transfer to the preschool, or an ongoing operational subsidy.

In theory, subsidies increase access to preschool by mitigating the costs of running a preschool, which means that a preschool could still operate even in markets where families are unable to afford significant fees.

9.2.1 Model 2A: A subsidy for private preschools in any municipality, linked to the number of teachers

In this model, **private preschools would receive a subsidy linked to the number of teachers employed.** Private preschools would submit a record of their enrolments to the LSG, and the LSG would provide a subsidy that covers a portion of the salaries for a certain number of teachers based on the number of children enrolled. Typically, preschools would submit an estimate of their enrolments to the LSG at the start of a period (such as 3-months) based on factors such as previous enrolments and classroom sizes. The LSG would make a commitment to the value of the subsidy on this basis, and the subsidy would be paid to the preschool at the end of the period based on actual enrolment, provided that it does not exceed the maximum number of teachers that had originally been applied for.

To enable new preschools to enter the market, it is important that the subsidy is open to preschools that have not yet opened. In such a case, the preschool would apply to the LSG with a business case to demonstrate viability, as well as a concrete indication of likely enrolment (such initial registrations from families). The arrangement with the LSG would be identical as before – the LSG would commit to the subsidy based on the initial plan, and then pay the subsidy based on actual enrolments.

Although the size of the subsidy is linked to the number of enrolments, this would not be on a per child basis. Rather, the LSG would agree that a certain number of teachers are required for the number of children enrolled, and they would provide the subsidy on this basis. This marks an important difference from the voucher models described previously.

Options

The subsidy may be a fixed amount based on the seniority of the teacher, or a capped proportion of a teacher's salary. A fixed subsidy would be based on the expected salary of

a teacher of a particular level; as such, the LSG would need to develop a matrix to determine the value of the subsidy in each scenario. One advantage of this is comparability between preschools, since differences in the total subsidy provided would be due to the number of teachers, rather than the preschools' decisions as to how to set salaries. A further advantage of a fixed subsidy is that it would set a minimum benchmark for how much teachers can or should be paid. A disadvantage, however, is that it requires the LSG to attempt to determine a fair market rate. If the LSG does not determine a fair market rate accurately, the value of the subsidy will either be inefficient (if higher than necessary) or insufficient (if lower than necessary).

If the value of the subsidy is fixed, then it may be determined by the seniority of the teaching position, or the experience and qualifications of the teacher. The advantage of the former is that calculating the value of the subsidy would be relatively straight-forward, as the value can be set based on (i) whether the position entails management and supervision, and (ii) the level of class taught. However, since the value does not differentiate based on experience or qualification, a preschool would receive the same subsidy for a newly qualified teacher as for a veteran teacher. Since a veteran teacher is likely to be paid more than a newly qualified teacher, this variation of the model would discourage preschools from employing more senior teachers. On the other hand, basing the value of the subsidy on qualification and experience is more complex, and it is also more difficult to verify the length of a teacher's experience.

The value of the subsidy may be small or large. Larger subsidies are more likely to enable preschools to serve poor families, and increase teachers' salaries to attract better teachers. However, larger subsidies are also more likely to be inefficient, if the value of the subsidy is (i) larger than what is required to serve poor families, and/or (ii) larger than the increase in salaries required to attract suitably capable teachers.

Operational risks

There is some risk in this model, but this risk is limited and primarily borne by the private preschool.

As with a voucher system (Model 1), a key benefit of the subsidy is that it does not require the LSG to build new facilities and the LSG pays the subsidy post-hoc based on actual

enrolments. While the LSG may have to estimate the number of teachers required based on the projected enrolments, the LSG does not pay any penalty if this estimate is incorrect since the value of the subsidy is capped at the initial estimate. The risks are similarly minor for families. As with a voucher system, families enrol their children with verified preschools that are inspected by the LSG, and families are also able to move to a new preschool.

There is a minor risk for private preschools, however. Private preschools will recruit teachers based on projected enrolments and the anticipated subsidy, but this recruitment will happen before enrolments are confirmed and the subsidy is paid. Thus, private preschools bear the risk if enrolments do not happen as projected. If projections are inaccurate, the preschool will still have to pay the teacher's salary even though the subsidy was not received.

General advantages

A key advantage of Model 2A (a subsidy available in any municipality linked to the number of teachers) is that it does not penalise small preschools; whereas the voucher system would provide funding on a per child rate such that small groups may not be financially viable, a subsidy linked to teacher salaries does not encounter the same problem. Thus, this model may be better suited to supporting private preschools in areas with low-population density. Another advantage of this model is that it is typically easier to implement than a voucher system, as it requires monitoring the enrolment of a preschool as a whole, rather than the enrolments of families using vouchers. Moreover, preschools are still subject to competitive pressure in this model; if enrolments drop due to families' dissatisfaction, the preschool will not receive the subsidy.

Finally, subsidy models have the strongest evidence-base of all the approaches to PPP considered in Section 2. As Aslam et al. (2017: vii) concluded, the existing evidence was 'weakly positive' in favour of subsidies improving enrolments, improving learning outcomes, and reaching poor families. However, the benefits to equity have been most apparent in models that restricted subsidies to poor areas. These are considered in Models 2A* and 2B*.

General disadvantages

A key disadvantage of a subsidy model is that its impact on access and quality is relatively indirect; it is possible, for example, that preschools take the subsidy but do not expand enrolment or increase the salaries of teachers. If so, the subsidy would be particularly

ineffective. Another disadvantage is that subsidies may be inefficient, since they would also apply to preschools that are already operational, and for groups within those preschools that are already financially viable. This is particularly so if the subsidy is applied to municipalities that already have a substantial private preschool sector.

Finally, a subsidy model does not offer the same protection to the public sector as the voucher system. In the voucher system, families are only eligible if they have been rejected from a public preschool. This cannot be applied in a subsidy model, since the criteria for eligibility is applied to the preschool and not the family. Thus, there may be a further inefficiency in a subsidy model if it facilitates families moving from the public to the private sector.

9.2.2 Model 2B: A subsidy for private preschools in any municipality provided per child

In this model, private preschools in any municipality would receive a subsidy based on the number of children enrolled. The value of the subsidy would be determined as a proportion of the economic cost.

Model 2B is different from Model 2A, as in the latter the subsidy is based on the number of teachers and thus salaries. Model 2B is also different to the voucher system, although both are provided per child since families do not need to meet certain conditions to benefit from the subsidy. This is because in a subsidy model, preschools are eligible for the subsidy which is paid by the LSG based on the number of enrolments. In the voucher model, by contrast, it is families that are eligible for the voucher based on whether they meet certain criteria.

Options

A per child subsidy available to private providers in any municipality is the most straight-forward of all the models considered in this section. The primary option concerns the value of the subsidy, which has been considered in the previous model of a subsidy linked to teacher salaries (Model 2A).

Operational risks

The risks afforded by this model are identical to a voucher available in any municipality (Model 1A). For the LSG, the subsidy is fixed and paid post-hoc, and it is not necessary to build new facilities. For families, children are enrolled in verified preschools and they can change preschool if desired. Private preschools continue to bear the most risk, since they are expected to expand capacity in response to the subsidy and thus risk wasting this investment if the subsidy is abandoned by the LSG.

General advantages

A key advantage of this model is administrative ease. It is simpler to administer than a subsidy towards teachers' salaries, as it does not require calculating a different subsidy for each level of seniority or experience. It is also simpler to administer than a voucher, as it does not require families to individually apply for the programme, or require the LSG to determine whether families meet the criteria.

A further advantage – arguably – is that a subsidy per child enables more equal competition between public and private preschools. This is because families do not have to first be rejected from a public preschool before they are eligible for the voucher.

General disadvantages

This model shares the same disadvantages as a subsidy linked to teacher salaries (Model 2A). The impact on enrolments and quality is relatively indirect and thus may be ineffective. The lack of criteria for families may mean that the subsidy supports families who were previously enrolled in the public system, and thus may be inefficient.

Furthermore, a subsidy per child is not linked as directly to salaries as the subsidy per teacher. Consequently, the impact of teachers' salaries is even more indirect; whereas a subsidy per teacher would ensure that that teacher is not paid below a certain amount, a subsidy per a child does not offer the same effect. In addition, unlike a subsidy per teacher, a subsidy per a child would disadvantage preschools in less populated areas, if those preschools are unable to enrol the minimum number of children needed per teacher to be financially viable.

A subsidy per child also does not distinguish between families based on income. A preschool would receive the same subsidy for a poor or wealthy family, and thus charge the

same fees to both. In contrast, a low-income family in the voucher system would need to pay the total fees minus the value of the voucher, while a wealthy family would pay the total fees. Consequently, the impact of the subsidy per a child on equity is unclear; in order to make preschool more affordable for poor families, the preschool would have to decrease fees for both poor and wealthy families, which is unlikely.

9.2.3 Models 2A* and 2B*: The subsidy, whether provided per teacher or per child, would be limited to private preschools in less developed municipalities (i.e. Groups 2-5)

While Model 2A and 2B use different mechanisms for providing a subsidy, the subsidy is provided to private preschools irrespective of municipality. In Model 2A* and 2B*, the subsidy for each is restricted to less developed municipalities (i.e. Groups 2 – 5).

Options

The options available to these models are identical to the subsidy models available to all municipalities (Models 2A and 2B).

Operational risks

The risks for these models are identical to the subsidy models available to all municipalities.

General advantages

In addition to the advantages of the subsidy models available to all municipalities, a key advantage of restricting the eligible municipalities is that it would reduce the inefficiency. Such a restriction would in effect target those municipalities in which a private preschool market does not otherwise seem financially viable. It is in these contexts that an intervention to reduce the cost of supplying preschool would most likely lead to an increase in enrolments.

Moreover, restricting the subsidy to less developed municipalities would fund far fewer private preschools that are already operational and financially viable. Consequently, the subsidy would cover only a small number of private preschools that already exist and are financially viable. A further advantage is that a targeted subsidy may encourage private preschool proprietors in developed municipalities to open branches in less developed municipalities.

General disadvantages

A key disadvantage is that Group 1 municipalities have the largest absolute numbers of unenrolled children. Of the five municipal levels of development, municipalities in Group 1 account for 43% of all unenrolled children. Consequently, while restricting the subsidy to less developed municipalities is likely to increase the enrolment rates in those municipalities, the exclusion of the most densely populated municipalities will reduce the impact of the national enrolment rate. Nonetheless, the potential gains may still be substantial, as Models 2A* and 2B* would still target most unenrolled children (57%).

9.2.4 Model 2C: Start-up subsidy

In this model, private operators would receive a once-off transfer in order to set up a new preschool – either as their first preschool, or as a new branch. Private operators would apply for the subsidy by submitting a business plan to the LSG, including an assessment of demand, previous experience in operating a preschool, and any other financial guarantees or contributions. The grant would be made under the condition that the preschool operate for a certain number of years. Other conditions may also be included, which may relate to fees or equity. The number of available subsidies would be determined by the LSG based on their assessment of the unmet demand for preschool. The availability of the subsidy would be advertised publicly, and adhere to the standard procurement procedures of LSGs.

Options

The subsidy may be a uniform amount available to all preschools, or it may be determined on the basis of individual applications. A uniform subsidy would be determined on the basis of an assessment of how large a subsidy would be required to be effective in supporting new preschools. An advantage of this approach is administrative ease, especially since determining the appropriate value of a subsidy on a case-by-case basis may entail significant expertise. A further advantage of this approach is that it reduces the risk of corruption, as administrators would be unable to acquiesce to informal pressure to increase the size of the subsidy. A disadvantage of a uniform subsidy, however, is that they may be either ineffective or inefficient if (i) the original assessment was inaccurate, or (ii) the prospective preschool is an outlier in the amount of funding needed. An intermediate option is also possible; a uniform subsidy is available as the norm, but the LSG is able to make

exceptions to this based on the particular needs of a preschool, and with additional oversight and approval.

The LSG be tolerant of risk in providing the subsidy, or it may be risk averse. A risk averse strategy for the LSG would be to limit the subsidy to providers with substantial experience in running private preschools and with considerable investment from other financial sources. The key advantage of this is that it reduces the likelihood that the LSG may invest resources into an enterprise that fails to deliver. However, a disadvantage of this approach would be that it reduces the number of eligible applicants and thereby reduces the extent to which the subsidy model may address the scale of demand. A further disadvantage is that there is an inverse relationship between the risk of the preschool failing, and the redundancy of the initial subsidy – if a preschool has considerable financial backing from other sources, then the provision of a subsidy is unlikely to make much difference in whether the preschool is established and/or succeeds.

In order to manage this risk, the start-up subsidy may be transferred in a single payment, or staggered in tranches. For example, an initial transfer may be made prior to the establishment of the preschool, with an additional transfer made once the preschool has been in operation for a certain number of months. A key advantage of staggering the subsidy into tranches is that it reduces the risk incurred by the LSG, since fewer resources would have been wasted if the preschool fails to start or fails rapidly. A disadvantage, however, is that it reduces the effectiveness of the subsidy – since the purpose of the subsidy is to provide access to finance ‘upfront’, the more the transfer is staggered, the less effective it is for this purpose.

Finally, the conditions imposed by the subsidy may vary. The LSG may require that the preschool reserve a certain number of places for marginalised and vulnerable families, or cap fees at a certain amount. We recommend that, at a minimum, the preschool be required to operate for a certain period of time. This provide a limited measure of protection against a preschool operating for a short period to benefit from the subsidy, and then changing to a more lucrative business or otherwise closing. This is discussed in greater depth below.

Operational risks

The start-up subsidy poses the most risk for the LSG of all of the subsidy models. This is because, by definition, the subsidy is provided before any services are rendered, and before the preschool has been validated as viable. It is thus possible that the LSG may provide the subsidy, and that it yield no benefit. The risk of this can and should be managed, as described above, especially through the use of tranches; however, this also makes the transfer less effective as a 'start-up' subsidy. The risk may also be reduced by requiring prospective preschools to provide a high threshold of surety; however, this also makes the subsidy redundant, as such preschools are likely to have access to more traditional sources of finance (such as bank loans).

A further key risk is the degree of control that the LSG has over the preschool once the subsidy has been completed. Although the LSG may pose conditions in theory, these will be difficult to enforce once the LSG has no further leverage through pending subsidy payments. Although the LSG may enforce these conditions through other means, such as the courts, such avenues are expensive and divert resources from the LSG's primary functions. It is also difficult, if not impossible, to enforce the condition that a preschool remain operational for a certain period – were a preschool to close prematurely, it would be difficult for the LSG to demonstrate if this was untoward or unavoidable.

Nonetheless, an initial start-up subsidy does bear less risk for the LSG than establishing new preschools directly. This is chiefly because the size of the subsidy is less than the full cost of a new preschool; otherwise, the nature of the risk is similar insofar as it requires the LSG to bear the risk upfront. A start-up subsidy also does not require an ongoing financial commitment from the LSG, unlike an operational subsidy; thus, there is less risk that a change the finance available to the LSG will lead to the closure of preschools.

A start-up subsidy bears limited risk for private preschools, although this varies depending on the conditions of the subsidy. If there are no conditions, the subsidy does not add any further risk beyond the ordinary risks associated with starting a new preschool – the start-up subsidy does not constrain the private operators decisions, and the private operate does not risk any additional penalties if their preschool were to fail. However, private operators may bear a risk depending on the conditions of the start-up grant, such as if those conditions

constrain their decisions (such as being able to raise fees) or impose any penalties for non-compliance.

General advantages

A key advantage of the 'start-up subsidy' model is that it directly addresses a bottleneck in the supply of preschool: access to start-up finance. In Section 11, private preschool operators interviewed as part of this study reported requiring significant financial support from their families. If this concern is representative, then a start-up subsidy is likely to enable many private preschool operators to enter the market. This is postulated by Aran et al.'s (2018) theoretical model of a subsidy model in Turkey, described in Section 2, which demonstrated that efforts to increase enrollment in preschools had limited effect if they did not address the need for start-up capital.

Another advantage of this model is that the financial investment required by the LSG is once-off or limited. This is in contrast to operational subsidy. This means that the LSG does not assume responsibility for the ongoing viability of preschools, although such responsibility is only indirect with an operational subsidy. This also means that the LSG has greater leeway in allocating its budget in future, than it would be if it were committed to an ongoing expense.

A further advantage of this model is that it does not require a distinction between developed and less developed LSGs - wherever there is unmet demand, LSGs may offer the start-up subsidy. This means that the start-up grant can be used by LSGs with the highest numbers of unenrolled children (i.e. Group 1), as well as LSGs with the lowest enrollment rates. This is in contrast to the operational subsidy.

Finally, an advantage of a start-up grant is that it creates only a limited anti-competitive distortion of the market. Although the start-up grant is not available to preschools that are already established in the LSG (unless they propose to open a new branch), and although the start-up subsidy gives new preschools an initial competitive advantage, this advantage is not unfairly sustained beyond the start-up period. Consequently, the start-up grant does not prevent more preschools from entering the market in the future. This is in contrast to the concession models described in Section 9.3.

General disadvantages

A key disadvantage of the start-up subsidy, however, is that it does not address a separate critical bottleneck in the supply of preschool: the ongoing financial viability of preschools in less development LSGs and/or serving vulnerable and marginalised families. In economic theory, if a private preschool is financially viable on an ongoing basis, then it should be possible for it to access start-up finance through traditional means (such as loans, whether from commercial banks or family). Although economic practice is rarely as straightforward, a principle concern remains that a start-up grant may be redundant – if a preschool is financial viable then a start-up grant from the LSG may be unnecessary and thus wasteful, whereas if a preschool is not financial viable then a start-up will be ineffective and thus wasteful.

A further disadvantage of this model is the risk assumed by the LSG, as described in detail above. A final disadvantage of this model is, unlike the operational subsidy and concessionary models, the LSG has limited leverage in being able impose equity conditions.

9.3 Concessions (Model 3)

A ‘concession’ would be a special agreement with individual private preschool providers, typically to provide support to the preschool provider which is not available to all preschools. As described in Section 2, in a ‘concession’ model the LSG may provide targeted support to selected preschools, such as through providing initial investment, offering reduced rent, or underwriting a minimum number of places. In theory, a concession increases access by providing focused support that addresses specific barriers to new preschools entering a particular area.

9.3.1 Model 3A: large concession (investment)

In this model, municipalities with either no preschool, or with a public preschool already at capacity (without any private preschools), would enter into an agreement with a private provider to establish a preschool with substantial state support. In this arrangement, the state might fund salaries as well as utilities and building maintenance. This is still different from a public preschool, however, insofar as the private provider is responsible for the management of the preschool, and recruitment and employment of teachers. The private preschool may also be responsible for certain expenses, such as the purchasing of the

building. The call for a concession may be initiated by either the LSG or families; either municipalities may identify a need and advertise for a private provider, or parents may apply as a group to the municipality if they can demonstrate that there are no alternative sources of preschool.

Options

A large concession may be offered in municipalities that already have some private preschools that are at capacity, or only municipalities with no private preschools. An advantage of the former is that it increases the number of municipalities that can offer this model. However, a significant disadvantage of this model is that it grants a significant advantage to private preschools with a concession over private preschools without a concession. In addition to being unfair, such an advantage may cause private preschools to exit the market if they are unable to compete on these terms. For these reasons, it would be preferable to limit a concession of this size to municipalities without any private preschools.

The concession may be granted for a long period or a short period. A long-lasting concession offers more stability to both the private preschool provider and families. However, if a concession is granted, it will be difficult for other private preschools to compete. On balance, a shorter concession is preferable if the private provider is unable to accommodate all unenrolled children in a municipality.

Operational risks

This model has a high degree of operational risk, especially for LSGs. The LSG is required to make a significant investment in a single preschool, and thus risk is concentrated rather than diversified. The private provider also takes on risk, but less so than if they had established the preschool without a concession, since the concession provides additional resources and assurances. Families do not carry significant risk in attending the preschool, since it is verified and closely monitored by the LSG, but if the preschool fails then families are left with few other alternative preschools.

General advantages

The primary advantage of this model is that it addresses the lack of private preschool providers very directly and with focused attention. It is likely that an LSG that offers such a concession would be able to find a private provider, and the LSG can provide sufficient

support to ensure that that provider is successful – such as, for example, ensuring that it is registered timeously or that there is sufficient infrastructure (such as roads) to support the school. This would be particularly effective in municipalities where there are multiple barriers to preschool.

General disadvantages

There are many disadvantages to this model. It is unlikely to be able to reach a large number of children, since any one concession is likely to only be able to serve several hundred families in a municipality. This is a problem if the concession makes it difficult for other private providers to enter the market. Consequently, a concession may reduce the potential for increased enrolment in the long-term. Moreover, a concession of this nature in effect grants the private provider with a monopoly, which reduces the competitive pressure on the provider to provide services of a high-quality.

Another significant disadvantage is the amount of risk adopted by the LSG in this model. The LSG is providing significant upfront investment, both in the establishment of the preschool and the procurement process. As this is invested in a signal provider, the LSG's investment may be wasted if the preschool in question fails. A related disadvantage is the extent to which the success of the venture depends on the relationship between the LSG and the private provider.

A final disadvantage is that this model has the weakest evidence-base of all three models considered in the literature review. Aslam et al. (2017) identified 3 studies, of which only two had positive results. Patrinos et al. (2009) identified 9 studies, of which 3 reported positive effects and 4 reported effects that were either null or negative.

9.3.2 Model 3B: medium concession (facilities)

In this model, the LSG would provide a small concession to selected preschools to improve their access to facilities. This may be, for example, reduced rent for the use of government-based facilities, or the provision by the LSG of prefabricated classrooms. As with other variations of this model, the concession would first be advertised and then awarded through a competitive process.

Options

If the LSG has unused facilities that meet the regulated standards for preschool, these may be rented out to private preschools at a preferential rate. The rate would need to be determined on a case-by-case basis for each facility. This may be done through a public consultation, and/or prospective private providers may need to propose a suitable rate in their procurement proposals. If the LSG has unused facilities that do not meet the regulated standards for a preschool, these could be renovated and then rented out.

Alternatively, the LSG may purchase prefabricated classrooms and rent these to private preschools at preferential rates. If so, the LSG would retain ownership of the prefabricated classrooms. The arrangement would be identical as with permanent facilities, and the rate can be set either through public consultation and/or negotiated through a competitive procurement process.

The LSG may require the selected private preschools to meet certain standards, and revoke the concession if these standards are not met. For example, the agreement may enable the LSG to revoke the concession if families complain about the quality of provision and these complaints are not adequately addressed. The standards may also concern equity, such as the provision of a certain number of places at reduced fees for vulnerable and marginalised families.

Operational risk

The degree of risk in this model varies, primarily for the LSG, depending on the use of facilities. If the LSG already has suitable facilities that are unused, the risk is relatively limited; there are few additional expenses required (other than those invested in a procurement process), and if the preschool is unsuccessful, the LSG can lease it out for other purposes. However, the model is riskier for the LSG if it requires renovating current facilities or purchasing prefabricated classrooms; in this case, the LSG's upfront investment may be wasted if a suitable preschool provider is not identified or if the preschool fails.

The risk for families is minor, since they would be attending a preschool that has been carefully vetted and monitored by the LSG. The risk of private preschools is also less than it would have been without the concession, since it reduces the initial investment required to start the preschool.

This model has limited risk if it uses existing facilities, and greater risk if it requires the renovation of facilities or the purchasing of prefabricated classrooms.

General advantages

If the LSG has unused facilities that meet the regulated standards for a preschool, then a key advantage of this model is that it utilises these otherwise unused facilities. This is efficient, as it would benefit both the preschool in receiving preferential rates, and the LSG in receiving rent for the use of these facilities. If the LSG provides prefabricated classrooms instead, then an advantage would be that the supply of preschools could be extended at a lower expense than would be required for the construction of additional facilities.

A further advantage is that the LSG maintains a high degree of leverage over the private provider, since the LSG has ownership over the facilities. This means that the LSG can be effective in holding the private provider to certain standards, as the private provider could otherwise be evicted if the concession is revoked.

General disadvantages

This model has several disadvantages. First, the regulatory requirements for preschool facilities are specific and thus it is unlikely that the LSG's unused facilities would be of this nature. Rather, it is likely that the LSG would need to renovate their facilities which would entail additional and considerable expense. Second, it is unclear whether prefabricated classrooms could meet the regulatory standards for preschools. This is explored in Section 9 on regulatory reform.

A further disadvantage of this model is that is it anti-competitive. There are a limited number of facilities owned by the LSG, and thus the concession cannot be offered to all private preschools. Consequently, some private preschools will have a significant and unfair advantage over other private preschools. As with Model 3A, this will deter new entrants and make it difficult for existing preschools to compete.

9.3.3 Model 3C: Small concession (underwriting)

In this model, municipalities with an insufficient supply of preschools may provide a small concession to new private preschool providers in order to alleviate the challenges of operating a preschool with low enrolments. In particular, the municipality would agree to

underwrite a certain number of places at the preschool, such that these are funded (either full or in part) if they are not filled. The prospective private preschool would submit a proposal to the LSG with a business plan, credentials, and a demonstration of demand (such as initial registrations). The concession will be reviewed periodically.

Options

If there is a persistent shortfall in enrolments, the LSG may decide either to (i) not renew the concession, or (ii) continue to underwrite the unfilled places. If the preschool is persistently unable to fill all the underwritten places, the LSG may decide that such a preschool is unlikely to become financially sustainable, and thus decide not to renew the concession on these grounds. Alternatively, the LSG may tolerate the shortfall of enrolments if it is due to a feature that would apply to any other preschool in this context, such as if the preschool is operating in a sparsely populated area. The latter option may be preferable if the children enrolled would otherwise have no access to preschool.

This model may be applied to all municipalities or restricted to less developed municipalities. One consideration in favour of restricting this model to less developed municipalities is that the model is likely to be most effective in municipalities with low population density. Conversely, an advantage of this model is that the LSG is not required to pay for each place that is filled; consequently, the model is unlikely to lead to wasteful expenditure in more developed municipalities. In sum, the decision could be made at an LSG-level, based on their assessment of whether uncertainty is a key barrier to the entry of new private preschools.

The LSG may set a standard number of underwritten places per preschool, or it may negotiate the number of places with each preschool separately. An advantage of negotiating with each preschool separately is that it enables the LSG to tailor the agreement to the specific needs of the preschool in question; thus, this is likely to be the most effective model. However, a disadvantage is that preschools may attempt to report a higher number of minimum places required than what is necessary for financial viability. Alternatively, the LSG may set a standard number of places based on market averages. This decision depends on the capacity of the LSG to make this assessment on a case-by-case basis.

Operational risk

In this model, risk is limited and borne primarily by the LSG. The LSG carries the risk if the underwritten places are not fulfilled; however, the potential cost risk is contained as it cannot exceed the number of underwritten places. Families carry the same risk as in most other models, since they are attending verified preschools and they are able to move their child to an alternative provider. The risk of private providers is considerably reduced in this model, as they are guaranteed a minimum income through the underwriting of a minimum number of places.

General advantages

An advantage of this model is that it may directly address a key barrier for private preschools in less developed municipalities, i.e. the uncertainty as to whether they will be able to recruit sufficient numbers of children in order to be financially viable.

A further advantage is that the LSG only pays for those places that are unfilled. This is efficient insofar as the LSG is not replacing funding that would have otherwise been provided by families. It also means that the concession is a relatively limited distortion of the market, since it only benefits small providers and thus does not deter new entrants nor significantly undermine existing preschools.

General disadvantages

A key disadvantage of this model is that it is only likely to be effective if a significant barrier to new preschools is the uncertainty of filling the requisite number of places. If this is not a significant barrier, then this model is unlikely to be very effective.

A second disadvantage is that LSGs may be funding the provision of preschools at a cost that is in effect higher than the average cost per child in other municipalities. This is because a preschool that has reached only a third of the anticipated capacity will receive funding from the LSG for the two thirds of unfilled places – effectively twice the cost per child. Nonetheless, this may simply reflect the higher cost per child of providing preschool access in areas with lower population density.

9.4 Models for further analysis

Based on the initial analysis above, we reject the following models:

- Model 2A: A subsidy for private preschools in any municipality linked to the number of teachers. We reject this based on its inefficiency, as it would entail subsidising the current level of service of a significant number of private preschools that are able to deliver these services without the subsidy[43];
- Model 3A: A large concession. We reject this model because it entails substantial risk to the LSG and substantial distortions to the market which may undermine enrolment in the long-term by restricting the entry of other private preschools.

We consider the regulatory reform required for all models in the next section and consider the 6 above models for further analysis in Sections 11 – 12.

[43] However, we will still consider the relative cost of this model in Section 10.

10 Implications for regulatory reform

In this section, we consider the regulatory reforms that would be necessary for each model. A full analysis is included in Serbian in Annex G.

10.1 Vouchers

Model 1A: A voucher redeemable at private preschools

The *Law on Support to Families with Children* currently enables LSGs to make transfers to families. Thus, as it currently stands this law is adequate to cover the provision of vouchers directly to families. However, it is unclear whether this law can be used to make transfers directly to preschools. This has been done in Kragujevac and Niš through written agreement with families to make the transfer directly to the preschool on their behalf, but the legality of this is unclear. A revision to the legislation will be necessary in order to ensure the legality of paying vouchers directly to preschool. This would likely require revision to the *Law on Foundations of System of Education and Upbringing* in particular.

Moreover, at present, the *Law on Support* enables the LSG to provide the voucher, but it does not make doing so mandatory. Consequently, the voucher system may be abandoned if the LSG has competing priorities or insufficient funding. This creates uncertainty for private preschools, as well as inequalities between LSGs. We recommend revision to the legal framework in order to provide policy certainty to families and private providers. As above, this would likely require revision to the *Law on Foundations of System of Education and Upbringing.*

Model 1B: A voucher redeemable at private preschools and with private family nurseries

This model would require regulatory reform in order to recognise family nurseries as providers of preschool education. This would be substantial, as it would require revision of most bylaws in addition to *Law on Foundations of System of Education and Upbringing (LFSE)* and the *Law on Preschool Education*.

Although Section 5 has described the initial regulatory basis for this model, the following revisions will be needed:

- A qualification for teachers working in family nurseries would need to be introduced and recognised in the *Law on Preschool Education*;
- Teachers in family nurseries would need to be included as a new category of preschool staff;
- The regulations of preschool facilities would need to accommodate preschool services provided by family nurseries within their own homes, and additional regulations would need to be introduced with these contexts in mind;
- Educational Inspectors and Pedagogical Advisors would need to be required to visit family nurseries as well as preschools.

Without these revisions, it would not be possible for LSGs to enter into this PPP with family nurseries.

10.2 Subsidies

These models would require regulatory reform to enable the LSG to provide subsidies of funding directly to private preschools. While the voucher system is based on the *Law on Support to Families with Children*, this law does not cover subsidies paid directly to the preschool. The law that would need to be changed is the *LFSE* which would need to be revised to enable LSGs to fund private preschools directly. Without these revisions, it would not be possible for LSGs to enter into this PPP with private preschools.

If the subsidy is based on teachers' salaries and the number of teachers, then a rulebook would need to stipulate the economic price for preschool teachers in order to allow LSGs to calculate the subsidy. This could likely be adapted from the current salary scale of teachers in public preschools.

10.3 Concessions

These models would require some regulatory reform, although they are partially covered by the current *Law on Public-Private Partnerships*. This law provides the framework through which a LSG could enter into a PPP with a private provider; the contract with the private

provider would specify break clauses as well as other conditions for the partnership. However, the LFSE would need to be revised to allow LSGs to enter into a PPP with private preschools in particular. This could be achieved by adding a new article or paragraph in Article 189 of *LFSE*, which would enable LSG to finance private preschool institutions by concluding a PPP contract with them. Without this revision, however, it would not be possible for LSGs to enter into this PPP with private preschools.

The current regulation enables LSGs to rent out unused facilities. However, these facilities would still have to meet the standards for preschool facilities to be used as a preschool. If the LSG charges preferential rental rates to the preschool based on a PPP agreement, then the revisions outlined in the previous paragraph will be required. Similarly, the use of prefabricated classrooms will depend on whether these classrooms meet the necessary requirements. As before, if rent of such facilities would be offered to private preschools by PPP, the *LFSE* would need to change to allow LSGs to finance private preschools in such manner.

11 Market sounding

In order to provide an initial assessment of these models, we conducted interviews with representatives from private preschools and LSGs. This section reports on the findings of these interviews.

We begin with an overview of the methodology (10.1), and then summarise responses from preschools in G1 (10.2), preschools in G2-5 (10.3), and representatives from LSGs (10.4). We conclude by reflecting on each of the models proposed (10.5).

11.1 Methodology

We aimed to interview private preschool providers from 4 categories.

- Private preschools in G1 municipalities with multiple branches (4 respondents);
- Private preschools in G1 municipalities without the voucher programme (3 respondents);
- Private preschools in G2 municipalities (4 respondents);
- LSGs without the voucher system in G1 and G2 municipalities (4 respondents).

We sought to gather basic data on preschool characteristics for all respondents, understand how their work has been affected by COVID-19, and their experience in engaging with LSGs. In particular, we sought feedback on the voucher system (Model 1A), the operational subsidy in less developed municipalities (Model 2A*), and the small concession (Model 3C) models.

Due to limited time for each interview, we did not seek feedback on the following models –

- The voucher for family nurseries (Model 1B), as private preschools would not be the relevant target market for this variation;
- The subsidy per child (Models 2B and 2B*), although we received feedback on this variation as part of the discussion on the voucher system;

- The large concession (Model 3A) or the operational subsidy open to all municipalities (Model 2A), as these had been rejected in the initial analysis stage of the assignment;

Although we initially elicited feedback on a medium concession such as through preferential access to facilities (Model 3B), this was dropped after pilot interviews, as respondents reported that the model was redundant as almost all preschools owned their own facilities. In addition, we were unable to collect data on respondents' perspectives on the optimum value of a start-up grant, as this was added to the study after the review of the penultimate report.

In total, 7 interviews were conducted by OPM and 8 interviews were conducted by UNICEF. OPM had invited a further 5 preschools to participate in interviews, but these preschools declined due to competing commitments. Unfortunately, we were only able to locate the contact details of private preschools in G1 and G2 municipalities.

The methodology and interview schedules for these interviews are included in Annex H.

11.2 Private preschools in G1 municipalities with multiple branches

The four preschools interviewed in this group had been in operation for between 10 and 25 years. These schools were also relatively large with between 50 and 152 children per branch. These characteristics may be expected, since preschools with multiple branches would likely be older and larger than most preschools. The four preschools varied in their experiences of their own LSGs. One preschool (in Niš) was very satisfied with the quality of communication and cooperation. All other preschools reported that there was not much communication or engagement.

Regarding COVID-19, all four preschools reported that it had been a very difficult period financially. In Belgrade, the LSG had stopped paying for the voucher and thus the preschool was unable to afford salaries. In Niš, many parents lost their jobs and thus no longer qualified for the voucher. Nonetheless, at the time of the interviews the preschools had reopened. This stabilized the financial outlook of each preschool.

These preschools either had all their branches in the same municipality, or in adjacent municipalities, because it is easier to manage multiple branches if they are geographically close together. One preschool had not thought of opening a branch in a less developed municipality; one preschool had plans to do so but these had been put on hold during COVID-19; and one preschool had tried to do so unsuccessfully.

Three of the four preschools responded positively to the **voucher model (Model 1A).** One preschool (in Niš) thought this model would enable them to open a new branch, provided that the restrictions on the model in Niš (which limits the voucher to families with two employed parents earning below a certain threshold) could be relaxed. One preschool expressed a preference for the voucher to be paid to schools directly, rather than to parents, and suggested that additional activities for children should also be subsidized. One preschool did not approve of the system; they were concerned about the voucher being paid late, and did not think the voucher would enable them to open a new branch as it would not cover the upfront expenses.

The preschools in this group also suggested that the voucher be paid as **a per child subsidy,** irrespective of whether the child had first been rejected from a public preschool, as this would enable fairer competition between private and public preschools. One preschool, which had attempted to start a new branch in a less developed municipality, believed that this had not succeeded because the public preschool had continued to enrol children even though they were already full.

Two of the four preschools responded positively to **a subsidy of teacher salaries for preschools in less developed municipalities (Model 2A*)**. One preschool would consider opening a branch in a less developed municipality under these conditions. Two preschools did not approve of this model; one was concerned about receiving the subsidy late as they had had negative experiences with LSGs in the past, while the other did not think the size of the proposed subsidy (50% of salary costs) was large enough. All four preschools agreed that receiving the subsidy would not change the value of the salaries paid, or the fees charged.

Three of the four preschools responded positively to **a small concession through the underwriting of a minimum number of places by the LSG (Model 3C).** One preschool explained that this would reduce the risk sufficiently for them to purchase a new building in

another municipality. One preschool explained that although the model is helpful in theory, they would still not open a branch in a less developed municipality as they did not believe the LSGs in such municipalities were financially reliable.

11.3 Private preschools in G1 municipalities without the voucher programme

The three private preschools interviewed in this group served between 44 and 74 children, and they had capacity to serve between 4 and 10 more children each. All three preschools wanted to enrol more children, but could not do so due to insufficient space, the prohibitive cost of increasing the space, and families not being able to afford the fees. During COVID-19, all three were severely affected financially and one took out a loan of RSD 2.4 million (EUR 20,000). Nonetheless, all three hope to survive now that preschools have reopened.

The preschools in this group were asked specifically about the **voucher model (Model 1A).** Two of the three preschools responded positively and believed that the model would lead to an increase in enrolment**.** One of these preschools anticipated employing more teachers as a result, while the other anticipated increasing teachers' salaries and funding more teacher professional development. One preschool was concerned that the model was too complicated for both preschools and the LSG, and they believed that Novi Sad had abandoned the model for this reason. Two preschools were concerned about receiving the payment late from LSGs.

These preschools were also asked for their feedback on a special voucher for children from vulnerable and marginalised families, which would cover the full economic cost but which would prevent the preschool from being able to charge additional fees for these families. All three preschools thought that such a voucher would increase the number of children from these families. Two preschools thought that the economic cost of providing for children from such families would be the same as mainstream families; one preschool agreed that this would be the case for children from low-income families, but motivated that the voucher should be larger for disabled children as it would require the employment of specially trained staff.

11.4 Private preschools in G2-5 municipalities

Two of the four preschools interviewed in this group had been operating for 9- and 19-years respectively, but both had only registered as a preschool after 4- and 7-years of initially running as a childcare centre. One preschool had started in 2019 and was still in the process of being verified. The four preschools had between 16 – 70 children. Three preschools had considered opening new branches but were also comfortable with their current arrangements and were wary of taking on further financial risk.

Three preschools reported having very little engagement with the LSG, while one reported having negative experiences owing (they believed) to a lack of interest in supporting the private sector. COVID-19 reportedly affected three of these preschools severely. Although the assistance from the government was helpful, the lack of income from families' fees prevented preschools from paying full salaries. However, enrolment numbers had returned to normal after preschools had reopened.

The preschools identified two key reasons as to why there were so few preschools in their municipalities. The first reason was the difficulty of the registration process, which was considered to be long and exhausting. The second reason was the level financial investment required, and thus the level of risk, especially if the LSG did not offer any subsidies. Two of these preschools had received substantial financial support from their families in opening their preschools.

Unexpectedly, it transpired that two of the preschools were in a municipality (Sombor) that had begun to pay **a per child subsidy (Model 2B*)** to private preschools from 2018. This subsidy reportedly did not require that children be rejected from a public preschool in order to qualify. The preschool that had opened most recently cited the subsidy as a reason for opening. Consequently, the two preschools were broadly supportive of the **voucher model (Model 1B)** but saw it as largely similar to their current subsidy. Another preschool thought that the voucher model would be beneficial, but that it would be preferable for families to be able to choose equally between public and private preschools (such as in a per child subsidy model).

Three preschools were very supportive of the **subsidy of teacher salaries for preschools in less developed municipalities (Model 2A*)**. All three believed that the subsidy would

enable them to open a new branch, and one clarified that this was because such a subsidy would make it easier for them to get a loan from the bank. Nonetheless, these preschools were unsure whether new preschools would enter the market in response to the model, since it did not address the bureaucratic hurdles which were prohibitive. Unlike those preschools in G1 municipalities, three preschools in G2 municipalities reported that the subsidy would lead them to increase teachers' salaries, as they believed that their teachers were underpaid.

None of the preschools in this group were supportive of **a small concession through the underwriting of a minimum number of places by the LSG (Model 3C).** This was chiefly because it did not address a real problem, since these preschools did not anticipate difficulties in recruiting children. Moreover, preschools were concerned that this model, like the models considered previously, did not address the bureaucratic hurdles in registering a private preschool which they believed were the main obstacles.

11.5 LSGs without the voucher system in G1 and G2 municipalities (4 respondents)

Of the four LSGs interviewed, only one (Pančevo) currently had a model for offering financial support to private preschools. This LSG reportedly had a waiting list of 600 families for public preschools, and so had an agreement with a private preschool in the municipality to subsidise 40 children. The LSG is currently in negotiations with another private preschool to extend this programme. They explained that the primary obstacle to expanding the number of subsidised children further was an insufficient budget. The other three LSGs did not offer any financial support to private preschools. The reasons for this were respectively (i) not receiving a request to do so from private preschools, (ii) not having a sufficient budget, and (iii) having sufficient capacity at public institutions.

Of the LSGs with insufficient capacity at public institutions, all three were supportive of the **voucher system (Model1A)**. All three anticipated that this model would lead to an increase in enrolments. However, all three indicated that the LSG would not have sufficient funding for this model, and two believed that funding would be required from other levels of government. One LSG, which had been studying the model provided at Novi Sad, anticipated that the funding for such a model would have to come from their own budget.

Two of the three LSGs believed that it would be administratively easier for the LSG to sign contracts with preschools rather than individual families; one believed that this would be feasible with their current human resources, while one believed that it would still be difficult because they would have to employ more people. All three LSGs agreed larger subsidies should be paid for children from vulnerable and marginalised families.

Of these three LSGs, two rejected the **subsidy of teacher salaries for preschools in less developed municipalities (Model 2A*)**. For both, this was because they did not see any benefits to the model, and they did not think LSGs would be able to decide how many staff were appropriate or what salaries they should be paid. All three LSG municipalities were concerned about their ability to monitor this model, and they did not think they would be able to afford to offer this subsidy without significant support from the national government.

11.6 Implications for each model

The implications for each model are considered below:

- The **voucher system (Model 1A)** is largely popular. Respondents did not offer any challenges that were not anticipated in Section 8, and believed that such a model would lead to an increase in enrolment and support them to open new branches;
- Although feedback was not elicited on whether the **voucher system should be extended to family nurseries (Model 1B),** much of the feedback from LSGs remains relevant. The LSGs chief concerns were their administrative capacity, both in managing contracts and in monitoring schools. This is pertinent since the inclusion of family nurseries in the ECE system as part of a voucher programme would require substantially more administrative capacity than the original voucher system.
- The **subsidy of teacher salaries for preschools in less developed municipalities (Model 2A***) was unpopular with LSGs, as respondents did not think the LSG could be involved in deciding the number of teachers required or how much they should be paid. This model was relatively more popular with preschools, although there was a concern about the unreliability of LSGs. An unexpected finding was that preschools in G2 municipalities anticipated that the model would lead to an increase in teacher salaries, while those preschools in G1 municipalities believed their teachers were

already paid fairly. Crucially, no preschools interviewed believed that this model would lead to a decrease in fees;

- The **per child subsidy (Models 2B and 2B*)** unexpectedly featured in the market sounding interviews. Two preschools in a G2 municipality already benefitted from this model, and one had cited it as the reason that they had opened their preschool. Other preschools implicitly demonstrated a preference for this model, as they believed that the voucher model would be improved if families did not have to first be rejected from a public preschool in order to qualify for the subsidy;
- Although we did not elicit feedback directly on the **start-up grant (Model 2C)**, respondents indicated that access to significant finance upfront was required to open a preschool;
- Although a **medium concession such as through preferential access to facilities (Model 3B**) was initially considered, this was dropped from the interview schedule once it became apparent that it was ill-suited. Every preschool interviewed either owned their own premises or rented premises from a family member.
- The **small concession through the underwriting of a minimum number of places by the LSG (Model 3C)** was unexpectedly rejected as ineffective. G2 municipalities reported that such a model was redundant, as they did not anticipate challenges in recruiting children[44].

The most valuable findings from these interviews cut across all models, however. Chiefly, this is that none of these models address what private preschools consider to be the biggest challenge in receiving any government support: the process of preschool verification. If this is as widespread a concern as respondents reported, then the effectiveness of any model of PPP is moot until this is resolved. If this is a significant barrier to new preschools opening, the number of preschools that could benefit from any PPP will remain small.

A further valuable finding is that the relationship between LSGs and private preschools is generally limited. If private preschools are wary of entering into an agreement with the LSG, or if the relationship between the LSG and private provider is poor even once an agreement

[44] The preschools in G1 municipalities were asked specifically about whether such a model would encourage them to open branches in less developed municipalities; thus, although these preschools were supportive of the model, this may be because they erroneously assume that recruiting children in such municipalities would be a challenge.

is reached, this will be a problem for the uptake of any model of PPP. Finally, it is notable that despite a general willingness to engage in a voucher model of PPP, the primary constraint for those LSGs interviewed was the size of their available budget. The reach of any model of PPP will be limited by this consideration.

12 Economic analysis

In this section, we consider the potential costs of the three main means of funding considered in the remaining 6 models – (i) providing a subsidy or voucher per child (12.1), (ii) a subsidy of teachers' salaries (12.2), and (iii) an initial 'start-up' subsidy (12.3). For the purposes of our analysis, a subsidy provided per child would have the same cost structure as the voucher model.

We provide comparisons of the cost of these models to current preschool expenditure in a sample of 26 LSGs (listed in Annex J). Current preschool expenditure provides a proxy of current capacity, and thus the comparison between potential vs. current expenditure provides a gauge of the feasibility of each model. We also consider the costs to the LSG of meeting the demand for preschool through solely public provision (12.4). We discuss the implications of these findings in the final section (12.5).

The calculations comparing projected to current expenditure should be interpreted with caution, however. The 26 LSGs are not representative of Serbia as a whole. Moreover, the calculations below are based on the increase in expenditure required given an increase in enrolments in 3 – 5.5 year olds, compared to the current expenditure for 0.6 – 6.5 year olds. Finally, the 26 LGS are weighted heavily towards G1 (10 LSGs, 113,671 children). In contrast, we have data on only 3 LSGs in G5, accounting for only 398 children. Unfortunately, more detailed data than this was not avaliable for this study.

We consider these calculations for 2025 and 2030 projections, and based on different scenarios that vary the enrolment rate. The question guiding this analysis is the additional cost to government if the increase in enrolment was wholly funded by the model under consideration. This presents an important caveat to our analysis. This is not a projection of what the cost of the model will *actually* be if any of the models were implemented. Such a calculation would be based on a projection of what the increase in enrolment would be due to the model in question, and the available data is insufficient to support such a projection

with any degree of confidence[45]. Rather, our analysis considers the cost of either funding modality *given* different levels of enrolment. This is a test of the financial feasibility of either modality; specifically, whether either modality could realistically be afforded at the scale required.

Table 30 provides a summary for each of the models considered in this section. Subsidies will be less expensive than vouchers, and the implications for this are discussed in Section 12.5. The potential cost of start-up grants varies considerable, owing to the wide scope for the value of such a grant (discussed in Section 12.3). All PPP models are considerably less expensive than constructing public facilities.

Table 30: Economic analysis - summary

Model	Nature of cost	Expenditure required (nationally)*	Proportional increase required / current expenditure (sample)**
Public-private partnerships			
Voucher (80% of economic price)	Reoccurring	RSD 10.7 – 13.6 billion (EUR 91.1 – 111.7 million)	25% - 32%
Subsidy (50% of teacher salaries)	Reoccurring	RSD 5.8 – 8 billion (EUR 49.9 – 59.7 million)	20.5%
Start-up grant	Once-off	RSD 9.9 – 19.8 billion (EUR 85 – 168 million)	18.6%*** - 37.2%
Public provision			
Construction	Once-off	RSD 30.4 – 70.9 billion (EUR 257 – 601 million)	57% - 133%

** This is the expenditure required by LSGs given a 50pp increase in enrolments by 2025.*

*** This is based on data from only 26 LSGs and should be interpreted with caution.*

**** The discrepancy between the comparison in expenditure between the subsidy and start-up grant at a national level vs. in the sample is due to the sample being unrepresentative of national expenditure.*

12.1 The cost of a voucher system

The amount of funding that will be required from government in implement the voucher system in other LSGs in Serbia will depend on:

a) The future demand for preschool;
b) The economic cost of preschool;

[45] This projection would require knowing, for example, the expected increases in enrolment from the voucher programme and from the subsidy programme respectively. While one could assume that enrolment in all municipalities would increase in the same manner as in Belgrade, Kragujevac, and Niš, such an assumption is extremely tenuous at best. We do not have any data on which to make an assumption about the expected increase from a subsidy programme.

c) The value of the voucher.

In Section 6.2, we provided different scenarios of future demand for preschool for the LSGs in different development groups. Tables 31 - 36 reproduces those different scenarios and calculates the amount of funding that will be required from either government as a whole, or LSGs in different development groups, if all of estimated increase in demand for preschool (i.e. all 'additional' children) will be covered by privately provided services funded by 50% or 80% voucher value as percent of the economic cost of preschool.

We develop this model using two values for the economic cost of preschool: RSD 14,162 (120) and RSD 18,000 (EUR 150). Variation in data on economic price, including our own estimates of the approximate value, necessitate consideration of both models. RSD 14,162 is the lower bound reflecting our calculation of economic price based on guidelines from the *Regulation on coefficients for calculation of salaries of employees in public services (2020)*, while RSD 18,000 is based on our calculations using data from the City of Belgrade Official Gazette in 2020[46] (Annex J).

Table 31 shows that in 2025 scenarios for a voucher based on an economic price of RSD 14,162. The estimated value for all 'additional' children range between RSD 1.9 billion (50% voucher) and RSD 3.3 billion (80% voucher) (EUR 16.6-26.5 million), assuming a 20pp increase in demand for preschool, and between RSD 6.7 billion (50% voucher) and RSD 10.7 billion (80% voucher) (EUR 56.9-91.1 million), assuming a 50pp increase in demand for preschool. The later would bring the overall coverage of children aged 3-5.5 to 100%. In 2030 scenarios, the cost for a 20pp increase drops to between RSD 1.5 billion (50% voucher) and RSD 2.5 billion (80%) (EUR 13.3-21.2 million). The cost of a 50pp increase drops to between RSD 6.1 billion (50% voucher) and RSD 9.8 billion (80% voucher) (EUR 52.2-83.6 million).

Table 32 repeats the same calculations for a voucher based on an economic price of RSD 18,000. In 2025 scenarios, the cost of the voucher to government ranges between RSD 2.4 billion (50% voucher) and RSD 3.9 billion (80% voucher) (EUR 21.1-33.7 million) for a 20pp increase in demand. This rises to between RSD 8.5 billion (50% voucher) to RSD 13.6 billion

[46] City of Belgrade Official Gazette, LXIII No. 145.

(80% voucher) (EUR 72.3-111.7 million) for a 50pp increase in demand. In 2030 scenarios, this decreases to between RSD 1.9 billion (50% voucher) and RSD 3.2 billion (80% voucher) for a 20pp increase in demand, and to between RSD 7.8 billion (50% voucher) and RSD 12.5 billion (80% voucher) (EUR 66.4-106.2 million) for a 50-pp increase in demand.

Due to the slightly negative demographic trend, the estimated funding scenarios do not differ significantly between 2025 and 2030, but are less expensive the further we go into the future.

Table 31: Amount of funding that will be required from government under different voucher scenarios (RSD 14,162) – overall

	Absolute values	Enrollment rates (%)	Demand increase (#)	Demand increase (%)	Voucher at 50% (RSD)	Voucher at 50% (EUR)	Voucher at 80% (RSD)	Voucher at 80% (EUR)
2018 situation								
Total # of children	197,890							
Enrolled # children	102,321	51.71						
Unenrolled # of children	95,569	48.29						
Available place in public & private preschools	8,491	4.29						
2025 projection								
Total # of children	186,700							
Demand at 2018 enrollment rates	96,535	51.71	-14,277	-13.95				
Increase enrollment rates by 20pp	133,875	71.71	23,063	22.54	1,959,717,631	16,607,777	3,135,658,912	26,573,381
Increase enrollment rates by 50pp	189,885	101.71	79,073	77.28	6,718,999,351	56,940,672	10,750,778,512	91,108,292
2030 projection								
Total # of children	180,301							
Demand at 2018 enrollment rates	93,226	51.71	-17,586	-17.19				
Increase enrollment rates by 20pp	129,287	71.71	18,475	18.06	1,569,826,427	13,303,614	2,511,810,962	21,286,534
Increase enrollment rates by 50pp	183,377	101.71	72,565	70.92	6,165,987,399	52,254,130	9,865,928,150	83,609,561

Table 32: Amount of funding that will be required from government under different voucher scenarios (RSD 18,000) – overall

	Absolute values	Enrollment rates (%)	Demand increase (#)	Demand increase (%)	Voucher at 50% (RSD)	Voucher at 50% (EUR)	Voucher at 80% (RSD)	Voucher at 80% (EUR)
2018 situation								
Total # of children	197,890							
Enrolled # children	102,321	51.71						
Unenrolled # of children	95,569	48.29						
Available place in public & private preschools	8,491	4.29						
2025 projection								
Total # of children	186,700							
Demand at 2018 enrollment rates	96,535	51.71	-14,277	-13.95				
Increase enrollment rates by 20pp	133,875	71.71	23,063	22.54	2,490,814,670	21,108,599	3,985,303,471	33,773,758
Increase enrollment rates by 50pp	189,885	101.71	79,073	77.28	8,539,894,670	72,371,989	13,663,831,471	115,795,182
2030 projection								
Total # of children	180,301							
Demand at 2018 enrollment rates	93,226	51.71	-17,586	-17.19				
Increase enrollment rates by 20pp	129,287	71.71	18,475	18.06	1,995,260,252	16,908,985	3,192,416,403	27,054,376
Increase enrollment rates by 50pp	183,377	101.71	72,565	70.92	7,837,012,652	66,415,361	12,539,220,243	106,264,578

Tables 33 to 36 disaggregate the data per level of municipal development. Table 32 shows that in **2025 scenarios**, based on an economic price of RSD 14,162 and assuming a 50pp increase in demand for preschool, the estimated values for G1 LSGs range between RSD 2.8 billion (50% voucher) and RSD 4.5 billion (80% voucher) (EUR 23.6-37.8 million). This is much larger than G5 LSGS, which range between RSD 352 million (50% voucher) and RSD 564.8 million (80% voucher) (EUR 3-4.8 million). Using an economic price of RSD 18,000 in Table 33, this increases to between RSD 3.5 billion (50% voucher) and RSD 5.7 billion (80% voucher) (EUR 30-48 million) in G1 LSGs, and to between RSD 448.7 million (50% voucher) and RSD 718 million (80% voucher) (EUR 3.8-6 million) for G5 LSGs.

As before, the estimated funding scenarios do not differ significantly between 2025 and 2030. Table 35 shows that in **2030 scenarios**, based on an economic price of RSD 14,162 and assuming a 50pp increase in demand for preschool, the estimated values for G1 LSGs range between RSD 2.6 billion (50% voucher) and RSD 4.1 billion (80% voucher) (EUR 21.7-34.7 million). The values for G5 LSGs range between RSD 306 million (50% voucher) and RSD 439 million (80% voucher) (EUR 2.6-4.1 million). Table 36 indicates that based on an economic price of RSD 18,000, this increases to between RSD 3.3 billion (50% voucher) and RSD 5.2 billion (80% voucher) (EUR 28-44 million) in G1 LSGs, and to between RSD 389 million (50% voucher) and RSD 622 million (80% voucher) (EUR 3.3-5.3 million) in G5 LSGs.

Table 33: Amount of government funding required under different voucher scenarios (RSD 14,162) by level of development (2025)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2025)	101,713	35,057	32,405	8,422	9,103
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
Voucher at 50% (RSD)	1,060,721,590	341,769,647	392,851,632	80,312,186	120,962,151
Voucher at 50% (EUR)	8,989,166	2,896,353	3,329,251	680,612	1,025,103
Voucher at 80% (RSD)	1,697,214,464	546,850,742	628,584,803	128,504,034	193,546,274
Voucher at 80% (EUR)	14,383,173	4,634,328	5,326,990	1,089,017	1,640,223
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
Voucher at 50% (RSD)	2,789,272,997	1,235,428,669	1,218,906,930	295,002,441	353,012,186
Voucher at 50% (EUR)	23,637,907	10,469,734	10,329,720	2,500,021	2,991,629
Voucher at 80% (RSD)	4,462,994,360	1,976,755,658	1,950,319,943	472,020,570	564,839,438
Voucher at 80% (EUR)	37,821,986	16,752,167	16,528,135	4,000,174	4,786,775

Table 34: Amount of government funding required under different voucher scenarios (RSD 18,000) by level of development (2025)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2025)	101,713	35,057	32,405	8,422	9,103
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
Voucher at 50% (RSD)	1,348,184,481	434,391,587	499,317,143	102,077,344	153,743,731
Voucher at 50% (EUR)	11,425,292	3,681,285	4,231,501	865,062	1,302,913
Voucher at 80% (RSD)	2,157,095,170	695,026,539	798,907,429	163,323,750	245,989,969
Voucher at 80% (EUR)	18,280,468	5,890,055	6,770,402	1,384,100	2,084,661
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
Voucher at 50% (RSD)	3,545,185,281	1,570,238,387	1,549,239,143	374,950,144	448,680,931
Voucher at 50% (EUR)	30,043,943	13,307,105	13,129,145	3,177,544	3,802,381
Voucher at 80% (RSD)	5,672,296,450	2,512,381,419	2,478,782,629	599,920,230	717,889,489
Voucher at 80% (EUR)	48,070,309	21,291,368	21,006,632	5,084,070	6,083,809

Table 35: Amount of government funding required under different voucher scenarios (RSD 14,162) by level of development (2030)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2030)	99,040	33,716	31,133	8,059	8,353
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
Voucher at 50% (RSD)	877,367,712	262,525,693	330,631,627	61,413,550	92,919,759
Voucher at 50% (EUR)	7,435,320	2,224,794	2,801,963	520,454	787,456
Voucher at 80% (RSD)	1,403,837,900	420,055,938	529,029,280	98,265,150	148,676,864
Voucher at 80% (EUR)	11,896,931	3,559,796	4,483,299	832,756	1,259,973
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
Voucher at 50% (RSD)	2,560,493,088	1,122,000,478	1,124,261,610	266,850,355	305,851,094
Voucher at 50% (EUR)	21,699,094	9,508,479	9,527,641	2,261,444	2,591,958
Voucher at 80% (RSD)	4,096,933,580	1,795,264,146	1,798,882,084	426,975,642	489,379,028
Voucher at 80% (EUR)	34,719,776	15,214,103	15,244,763	3,618,438	4,147,280

Table 36: Amount of government funding required under different voucher scenarios (RSD 18,000) by level of development (2030)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2030)	99,040	33,716	31,133	8,059	8,353
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
Voucher at 50% (RSD)	1,115,140,433	333,671,972	420,235,086	78,057,048	118,101,657
Voucher at 50% (EUR)	9,450,343	2,827,729	3,561,314	661,500	1,000,861
Voucher at 80% (RSD)	1,784,224,692	533,875,155	672,376,137	124,891,276	188,962,651
Voucher at 80% (EUR)	15,120,548	4,524,366	5,698,103	1,058,401	1,601,378
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
Voucher at 50% (RSD)	3,254,404,433	1,426,070,372	1,428,944,286	339,168,648	388,738,857
Voucher at 50% (EUR)	27,579,699	12,085,342	12,109,697	2,874,311	3,294,397
Voucher at 80% (RSD)	5,207,047,092	2,281,712,595	2,286,310,857	542,669,836	621,982,171
Voucher at 80% (EUR)	44,127,518	19,336,547	19,375,516	4,598,897	5,271,035

12.1.1 Comparison to current expenditure

Tables 37 (2025) and 38 (2030) reports the increase in expenditure required compared to preschool expenditure in 2018 in the 26 LSGs. The caveats detailed at the beginning of this section should be considered with caution. Nonetheless, these calculations help to contextualise the increase in expenditure that the voucher model would require, given what LSGs already spend on PSE. The colour-code indicates the size of the increase – dark green for <10%, green for 11-20% yellow for 21-30%, orange for 31-40%, red for 41-60%, dark red for 61-100%, and black for >100%.

In aggregate, a voucher system would require a significant increase in preschool expenditure (i.e. between 15.6% and 25.1%) in order to accommodate a 50pp increase in enrollment in 2025 given an economic price of RSD 14,162. There is significant variation depending on level of municipal development, however. G2 – 5 will require substantially larger increases in expenditure (i.e. between 37.3% and 41.1%). This figures increase substantially given an economic price of RSD 18,000. Preschool expenditure in these 26 LSGs would need to increase between 19.9% and 31.2%. LSGs in G3 would need to increase expenditure by 52.3%.

Table 37 Increase in expenditure required for vouchers compared to preschool expenditure in 2018 (RSD 14,162)

Group	2025				2030	
	20pp increase in enrollment		50pp increase in enrollment		50pp increase in enrollment	
	Increase in expenditure (50% voucher)	Increase in expenditure (80% voucher)	Increase in expenditure (50% voucher)	Increase in expenditure (80% voucher)	Increase in expenditure (50% voucher)	Increase in expenditure (80% voucher)
Group 1	5.35%	8.56%	14.32%	22.91%	13.21%	21.13%
Group 2	6.52%	10.42%	23.30%	37.27%	22.18%	35.49%
Group 3	6.84%	10.95%	25.71%	41.14%	27.29%	43.66%
Group 4	9.57%	15.32%	25.25%	40.40%	23.30%	37.28%
Group 5	2.86%	4.57%	15.60%	24.95%	10.74%	17.18%
All	5.57%	8.92%	15.68%	25.09%	14.63%	23.41%

Table 38 Increase in expenditure required for vouchers compared to preschool expenditure in 2018 (RSD 18,000)

Group	2025				2030	
	20pp increase in enrollment		50pp increase in enrollment		50pp increase in enrollment	
	Increase in expenditure (50% voucher)	Increase in expenditure (80% voucher)	Increase in expenditure (50% voucher)	Increase in expenditure (80% voucher)	Increase in expenditure (50% voucher)	Increase in expenditure (80% voucher)
Group 1	6.80%	10.88%	18.19%	29.11%	16.79%	26.86%
Group 2	8.28%	13.25%	29.61%	47.38%	28.19%	45.11%
Group 3	8.70%	13.92%	32.68%	52.29%	34.68%	55.50%
Group 4	12.17%	19.47%	32.10%	51.35%	29.61%	47.38%
Group 5	3.63%	5.81%	19.82%	31.72%	13.65%	21.84%
All	7.08%	11.33%	19.93%	31.89%	18.60%	29.75%

12.2 Cost of an operational subsidy model

The amount of funding that will be required from government in implement an operational subsidy system in Serbia will depend on:

a) The future demand for preschool;
b) The value of teachers' salaries;
c) The size of the subsidy.

Tables 39 to 42 build on the different demand scenarios developed in Section 5.2. As before, we calculate the amount of funding that will be required from either government as a whole, or LSGs in different development groups, if all of estimated increase in demand for preschool will be covered by privately provided services funded by the subsidy linked to teachers' salaries.

We consider two different values for teachers' salaries, due to variation in how these may be calculated. The lower value is RSD 62,000 per month, based on data on salaries from infoplay.rs. The upper value is RSD 74,212, calculated using guidelines in the *Regulation on coefficients for calculation of salaries of employees in public services (2020)*. We assume a teacher:child ratio of 1:12, and that the subsidy will cover 50% of the teachers' annual salary.

Note that while the costing for the voucher system pertained only to formerly unenrolled children, the costing for the subsidy programme pertains to *all* children – even those enrolled prior to the programme. This is because while the voucher can be applied selectively to children who were otherwise not enrolled, the subsidy system is based on teachers. This has been discussed in Section 9.

Table 39 shows that in **2025 scenarios and assuming a salary of RSD 62,000**, the estimated value for all children range between RSD 4.1 billion (20pp increase in demand for preschool) and RSD 5.8 billion (50pp increase in demand for preschool) (EUR 35.1-49.9 million). In **2030 scenarios**, the estimated value for all children range between RSD 4 billion (20pp increase in demand for preschool) and RSD 5.6 billion (50pp increase in demand for preschool) (EUR 33.9-48.2 million). The later would bring the overall coverage of children aged 3-5.5 to 100%. Because of the future negative demographic trend, the estimated funding scenarios do not differ significantly between 2025 and 2030, and the amount of funding required decreases over time.

Table 40 shows that in **2025 scenarios and assuming a salary of RSD 74,212**, the estimated value for all additional children range between RSD 5 billion (20pp increase in demand for preschool) and RSD 7 billion (50pp increase in demand for preschool) (EUR 42.1-59.7 million).

In **2030 scenarios**, the estimated value for all additional children range between RSD 4.8 billion (20pp increase in demand for preschool) and RSD 6.8 billion (50pp increase in demand for preschool) (EUR 40.6-57.7 million). The later would bring the overall coverage of children aged 3-5.5 to 100%.

As before, due to the future negative demographic trend, the estimated funding scenarios do not differ significantly between 2025 and 2030, and are cheaper the further we go into the future.

Tables 41 and 42 disaggregates the data per level of municipal development. In 2025 scenarios, assuming a salary of RSD 62,000 and a 50pp increase in demand for preschool, estimates values would be RSD 3.2 billion (EUR 26.9 million) for G1 LSG and RSD 208 million (EUR 1.8 million). In 2030 scenarios, this decreases to RSD 3.1 billion (EUR 26.2 million) in G1 and RSD 191 million (EUR 1.6 million). For a salary of RSD 74,212, this increases to RSD 3.8 billion (EUR 32.2 million) for G1 and RSD 250 million (EUR 2.1 million) for G5 for a 50pp increase in enrollment in 2025. In 2030, these figures drop to RSD 3.7 billion (EUR 31.3 million) in G1, and RSD 229 million (EUR 1.9 million) in G5.

Table 39: Amount of funding that will be required from government under different operational subsidy scenarios – overall (teacher salary of RSD 62,000)

	Absolute values	Enrollment rates (%)	Demand increase (#)	Demand increase (%)	Salary subsidy at 50% (RSD)	Salary subsidy at 50% (EUR)
2025 projection						
Total # of children	186,700					
Demand at 2018 enrollment rates	96,535	51.71	-14,277	-13.95		
Increase enrollment rates by 20pp	133,875	71.71	23,063	22.54	4,150,128,063	35,170,577
Increase enrollment rates by 50pp	189,885	101.71	79,073	77.28	5,886,438,063	49,885,068
2030 projection						
Total # of children	180,301					
Demand at 2018 enrollment rates	93,226	51.71	-17,586	-17.19		
Increase enrollment rates by 20pp	129,287	71.71	18,475	18.06	4,007,885,591	33,965,132
Increase enrollment rates by 50pp	183,377	101.71	72,565	70.92	5,684,684,891	48,175,296

Table 40: Amount of funding that will be required from government under different operational subsidy scenarios – overall (assuming teacher salary of RSD 74,212)

	Absolute values	Enrollment rates (%)	Demand increase (#)	Demand increase (%)	Salary subsidy at 50% (RSD)	Salary subsidy at 50% (EUR)
2025 projection						
Total # of children	186,700					
Demand at 2018 enrollment rates	96,535	51.71	-14,277	-13.95		
Increase enrollment rates by 20pp	133,875	71.71	23,063	22.54	4,967,569,416	42,098,046
Increase enrollment rates by 50pp	189,885	101.71	79,073	77.28	7,045,876,476	59,710,818
2030 projection						
Total # of children	180,301					
Demand at 2018 enrollment rates	93,226	51.71	-17,586	-17.19		
Increase enrollment rates by 20pp	129,287	71.71	18,475	18.06	4,797,309,766	40,655,168
Increase enrollment rates by 50pp	183,377	101.71	72,565	70.92	6,804,384,437	57,664,275

Table 41: Amount of government funding required under different operational subsidy scenarios by level of development (RSD 62,000 salary)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2025)	101,713	35,057	32,405	8,422	9,103
Total # of children (2030)	99,040	33,716	31,133	8,059	8,353
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
Salary subsidy at 50% (RSD) in 2025	2,545,384,879	755,784,474	578,283,513	159,964,978	124,172,145
Salary subsidy at 50% (EUR) in 2025	21,571,058	6,404,953	4,900,708	1,355,635	1,052,306
Salary subsidy at 50% (RSD) in 2030	2,478,492,606	726,874,214	555,584,034	153,070,264	113,941,550
Salary subsidy at 50% (EUR) in 2030	21,004,175	6,159,951	4,708,339	1,297,206	965,606
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
Salary subsidy at 50% (RSD) in 2025	3,176,005,479	1,081,814,574	879,650,013	238,289,578	208,830,045
Salary subsidy at 50% (EUR) in 2025	26,915,301	9,167,920	7,454,661	2,019,403	1,769,746
Salary subsidy at 50% (RSD) in 2030	3,092,540,606	1,040,433,014	845,120,934	228,018,964	191,624,450
Salary subsidy at 50% (EUR) in 2030	26,207,971	8,817,229	7,162,042	1,932,364	1,623,936

Table 42: Amount of government funding required under different operational subsidy scenarios by level of development (RSD 74,212 salary)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2025)	101,713	35,057	32,405	8,422	9,103
Total # of children (2030)	99,040	33,716	31,133	8,059	8,353
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
Salary subsidy at 50% (RSD) in 2025	3,046,743,591	904,649,635	692,186,711	191,472,919	148,630,052
Salary subsidy at 50% (EUR) in 2025	25,819,861	7,666,522	5,865,989	1,622,652	1,259,577
Salary subsidy at 50% (RSD) in 2030	2,966,675,698	870,044,987	665,016,166	183,220,168	136,384,359
Salary subsidy at 50% (EUR) in 2030	25,141,319	7,373,263	5,635,730	1,552,713	1,155,800
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
Salary subsidy at 50% (RSD) in 2025	3,801,576,106	1,294,897,148	1,052,912,690	285,224,939	249,962,827
Salary subsidy at 50% (EUR) in 2025	32,216,747	10,973,705	8,922,989	2,417,160	2,118,329
Salary subsidy at 50% (RSD) in 2030	3,701,671,346	1,245,364,756	1,011,582,496	272,931,344	229,368,285
Salary subsidy at 50% (EUR) in 2030	31,370,096	10,553,939	8,572,733	2,312,977	1,943,799

12.2.1 Comparison to current expenditure

Table 43 reports the increase in expenditure required compared to preschool expenditure in 2018 in the 26 LSGs. The same caveats as Section 12.1.1 apply: these LSGs are not necessarily nationally representative, there is limited data avaliable on LSGs in G2-5, and the avaliable data limits us to comparing projected expenditure for 3-5.5 year olds to current expenditure for 0.5-6.5 year olds. Nonetheless, it provides an approximate gauge of whether a subsidy model would be financially feasible. Table 43 assumes a teacher salary of RSD 74,212.

The colour-code indicates the size of the increase – dark green for <10%, green for 11-20% yellow for 21-30%, orange for 31-40%, red for 41-60%, dark red for 61-100%, and black for >100%.

Table 43 Increase in expenditure required for operational subsidy compared to preschool expenditure in 2018 (2025)

Group	2025		2030
	20pp increase in enrollment Salary subsidy at 50%	**50pp increase in enrollment** Salary subsidy at 50%	**50pp increase in enrollment** Salary subsidy at 50%
Group 1	16.12%	20.04%	19.55%
Group 2	16.95%	24.28%	23.79%
Group 3	15.75%	23.99%	11.92%
Group 4	13.36%	20.20%	10.17%
Group 5	8.37%	13.93%	4.69%
All	16.08%	20.50%	19.37%

In aggregate, municipalities would need to increase current expenditure on PSE by 20.50% in order to supply a 50pp increase in demand. This is comparable to the increase in expenditure required by the voucher model (15-25% at an economic price of RSD 14,162). The voucher provides more funding per eligible children, since the subsidy for the teacher is divided between the whole group of 24 children. However, the subsidy is provided to all teachers – including those currently employed – whereas the voucher is targeted to only eligible children. There is also less variation between levels of municipal development: LSGs

in G5 are outliers in requiring an increase of only 13.9%. However, this should be interpreted with caution, as the data on the 26 LSGs included only 3 municipalities from G5.

12.3 The cost of a start-up subsidy

The amount of funding that will be required from government in implement a start-up subsidy system in other LSGs in Serbia will depend on:

a) The future demand for preschool;
b) The size of the start-up subsidy.

We use an 'average preschool' as the unit of our model. On average, a preschool in Serbia has 3 groups, each with approximately 23 children. The size of the subsidy may vary considerably. Anam et al. (2018: 8) calculate their model assuming an initial subsidy of $6,500 in Turkey. Their model also assumes a much smaller voucher. If we use the same subsidy-to-voucher ratio as Anam et al. (2018), the value of the start-up subsidy would be EUR24,900. However, in Section 12.4 we consider the cost of building a new preschool; which, for a preschool with sufficient space for 3 groups of children, would be between EUR190,440 and EUR444,360. If the purpose of the start-up grant is to reduce the size of the upfront investment, a subsidy of only EUR24,900 is likely to be ineffective.

Instead, we set the value of the subsidy based on the economic cost of preschool provision. For a 'small' grant, we set the value at the equivalent of 6-months of operating expenses, and increase this to 12-months for a 'large' grant. For the 'average preschool', this is EUR62,100 and EUR124,200 respectively. Note, however, that unlike the voucher and operational subsidy models considered previously, these grants would be 'once-off' rather than reoccurring.

Table 45 shows that in 2025 scenarios, the estimated value for all additional preschools range between RSD 3.9 billion ('small' grant) and RSD 7.9 billion ('large' grant)) (EUR 33.6-67.2 million), assuming a 20-percentage point increase in demand for preschool, and between RSD 9.9 billion ('small' grant) and RSD 19.8 billion ('large' grant) (EUR 84-168 million), assuming a 50-percentage point increase in demand for preschool. The latter would bring the overall coverage of children aged 3-5.5 to 100%.

In 2030 scenarios, the estimated value for all additional preschools range between RSD 3.8 billion (‘small’ grant) and RSD 7.6 billion (‘large’ grant)) (EUR 32.4-64.9 million), assuming a 20-percentage point increase in demand for preschool, and between RSD 9.5 billion (‘small’ grant) and RSD 19.1 billion (‘large’ grant) (EUR 81.1-162.2 million), assuming a 50-percentage point increase in demand for preschool. The latter would bring the overall coverage of children aged 3-5.5 to 100%. Tables 46 and 47 disaggregate this data by level of municipal development.

Due to the slightly negative demographic trend, the estimated funding scenarios do not differ significantly between 2025 and 2030, but are less expensive the further we go into the future.

Table 44: Amount of funding that will be required from government under different start-up grant scenarios - overall

	Absolute values	Enrollment rates (%)	Demand increase (#)	Demand increase (%)	Small grant (RSD)	Small grant (EUR)	Large grant (RSD)	Large grant (EUR)
2025 projection								
Total # of children	186,700							
Demand at 2018 enrollment rates	96,535	51.71	-14,277	-13.95				
Increase enrollment rates by 20pp	133,875	71.71	23,063	22.54	3,965,508,000	33,606,000	7,931,016,000	67,212,000
Increase enrollment rates by 50pp	189,885	101.71	79,073	77.28	9,913,770,000	84,015,000	19,827,540,000	168,030,000
2030 projection								
Total # of children	180,301							
Demand at 2018 enrollment rates	93,226	51.71	-17,586	-17.19				
Increase enrollment rates by 20pp	129,287	71.71	18,475	18.06	3,829,678,200	32,454,900	7,659,356,400	64,909,800
Increase enrollment rates by 50pp	183,377	101.71	72,565	70.92	9,574,036,200	81,135,900	19,148,072,400	162,271,800

Tables 40 and 41 disaggregate the data per level of municipal development. Table 32 shows that in **2025 scenarios**, assuming a 50-percentage point increase in demand for preschool, the estimated values for G1 LSGs range between RSD 4.3 billion ('small' grant) and RSD 8.6 billion ('large' voucher) (EUR 36.6-73.2 million). As before, this is much larger than G5 LSGS, which range between RSD 483 million ('small' grant) and RSD 967 million ('large' grant) (EUR 4.1-8.2 million). As before, Table 41 indicates that the estimated funding scenarios do not differ significantly between 2025 and 2030.

Table 45: Amount of government funding required under different start-up scenarios by level of development (2025)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2025)	101,713	35,057	32,405	8,422	9,103
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
'Small' grant (RSD)	2,160,320,400	744,568,200	688,282,200	178,840,800	193,390,200
'Small' grant (EUR)	18,307,800	6,309,900	5,832,900	1,515,600	1,638,900
'Large' grant (RSD)	4,320,640,800	1,489,136,400	1,376,564,400	357,681,600	386,780,400
'Large' grant (EUR)	36,615,600	12,619,800	11,665,800	3,031,200	3,277,800
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
'Small' grant (RSD)	4,320,747,000	1,861,473,600	1,720,758,600	447,208,200	483,316,200
'Small' grant (EUR)	36,616,500	15,775,200	14,582,700	3,789,900	4,095,900
'Large' grant (RSD)	8,641,494,000	3,722,947,200	3,441,517,200	894,416,400	966,632,400
'Large' grant (EUR)	73,233,000	31,550,400	29,165,400	7,579,800	8,191,800

Table 46: Amount of government funding required under different start-up scenarios by level of development (2030)

	Group 1	Group 2	Group 3	Group 4	Group 5
Total # of children (2025)	99,040	33,716	31,133	8,059	8,353
2018 enrolment rates increased by 20pp					
Enrollment rate (2018 rates + 20pp)	80.73	69.54	57.57	61.27	44.00
'Small' grant (RSD)	2,103,609,600	716,212,800	661,307,400	171,194,400	177,460,200
'Small' grant (EUR)	17,827,200	6,069,600	5,604,300	1,450,800	1,503,900
'Large' grant (RSD)	4,207,219,200	1,432,425,600	1,322,614,800	342,388,800	354,920,400
'Large' grant (EUR)	35,654,400	12,139,200	11,208,600	2,901,600	3,007,800
2018 enrolment rates increased by 50pp					
Enrollment rate (2018 rates + 50pp)	100	99.54	87.57	91.27	74.00
'Small' grant (RSD)	4,207,219,200	1,790,319,600	1,653,215,400	427,879,800	443,491,200
'Small' grant (EUR)	35,654,400	15,172,200	14,010,300	3,626,100	3,758,400
'Large' grant (RSD)	8,414,438,400	3,580,639,200	3,306,430,800	855,759,600	886,982,400
'Large' grant (EUR)	71,308,800	30,344,400	28,020,600	7,252,200	7,516,800

12.3.1 Comparison to current expenditure

Tables 48 (2025) and 49 (2030) reports the increase in expenditure required compared to preschool expenditure in 2018 in the 26 LSGs. The same caveats as in Section 12.1.1 and 12.2.1 should be considered carefully. The colour-code indicates the size of the increase – dark green for <10%, green for 11-20% yellow for 21-30%, orange for 31-40%, red for 41-60%, dark red for 61-100%, and black for >100%.

Table 47 Increase in expenditure required for start-up grant compared to preschool expenditure in 2018 ('small grant')

Group	2025		2030
	20pp increase in enrollment	50pp increase in enrollment	50pp increase in enrollment
Group 1	6.69%	17.89%	16.51%
Group 2	8.14%	22.12%	20.87%
Group 3	8.55%	24.28%	26.02%
Group 4	11.96%	25.03%	22.86%
Group 5	3.57%	14.19%	8.92%
All	6.96%	18.59%	17.29%

Table 48: Increase in expenditure required for start-up grant compared to preschool expenditure in 2018 ('large grant')

Group	2025		2030
	20pp increase in enrollment	50pp increase in enrollment	50pp increase in enrollment
Group 1	13.37%	35.78%	33.01%
Group 2	16.29%	44.25%	41.74%
Group 3	17.10%	48.55%	52.04%
Group 4	23.93%	50.06%	45.73%
Group 5	7.14%	28.37%	17.84%
All	13.93%	37.18%	34.59%

In aggregate, a small grant will require expenditure equivalent to 18.59% of the current annual expenditure of LSGs in the sample, while a large grant will require expenditure equivalent to 37.18% given an increase of 50pp in 2025. The increase required as a proportion of current expenditure is particularly high for LSGs in G2-4 (44-50%). However, like the subsidy and voucher models, the transfer for the start-up grant is once-off.

12.4 The cost of public provision

Finally, we consider the approximate costs to the LSG of meeting the increase in demand for preschool through solely public provision. For brevity, we consider the costs only at a national-level. These costs will depend on:

a) The future demand for preschool;
b) The economic cost of preschool;
c) The proportion of the economic cost covered by the LSG;
d) The cost of constructing new preschool facilities.

Regarding the costs of construction, the Novak Djokovic Foundation[47] estimates that the cost of building preschool facilities per square meter is between EUR600 and EUR1,400. As before, we use an 'average preschool' as our unit of analysis, with 3 groups and an average group size of 23 children, and an average of 4.6 square meters per child. The cost of a new preschool facility thus varies between EUR190,440 (RSD 22 million) and EUR444,360 (RSD 52 million). We refer to these as 'low' and 'high' cost scenarios. These construction costs would be once-off.

As above, we assume an economic cost of RSD 18,000 (EUR 150) per child each month. We assume that the LSG will cover 80% of this cost; noting, however, that in practice the amount covered will vary. Consequently, the ongoing cost to the LSG for direct provision is the same as the ongoing cost of the voucher programme set at 80% of the economic cost. This is indicated in Table 50.

Table 49: The amount of funding that will be required from government for ongoing public provision - overall

	Number of children enrolled	80% of economic cost (RSD)	80% of economic cost (EUR)
2025 projection			
Increase enrollment rates by 20pp	133,875	714,956,063	6,058,950
Increase enrollment rates by 50pp	189,885	2,451,266,063	20,773,441
2030 projection			
Increase enrollment rates by 20pp	129,287	572,713,591	4,853,505
Increase enrollment rates by 50pp	183,377	2,249,512,891	19,063,669

[47] The research team was advised to use these figures by UNICEF Serbia.

For the LSG, the key difference in cost between voucher and direct provision is construction. Table 51 shows the cost of construction alone, for 'low' and 'high' cost scenarios. In 2025, the cost to build sufficient facilities to meet demand ranges between RSD 12.1 billion ('low cost') and RSD 28.3 billion ('high cost') (EUR 103-240 million), assuming a 20-percentage point increase in demand for preschool, and between RSD 30.4 billion ('low cost') and RSD 70.9 billion ('high cost') (EUR 257-601 million), assuming a 50-percentage point increase in demand for preschool. Since there is a negative population trend, it is not necessary to consider the costs of meeting demand in 2030 as fewer preschools will be required.

Table 50: The amount of funding that will be required from government to construct new preschools to meet demand - overall

	Number of additional enrolments	'Low' cost (RSD)	'Low' cost (EUR)	'High' cost (RSD)	'High' cost (EUR)
2025 projection					
Increase enrollment rates by 20pp	37,340	12,160,891,200	103,058,400	28,375,412,800	240,469,600
Increase enrollment rates by 50pp	93,350	30,402,228,000	257,646,000	70,938,532,000	601,174,000

12.4.1 Comparison to current expenditure

Tables 34 (2025) and 35 (2030) reports the increase in expenditure required compared to preschool expenditure in 2018 in the 26 LSGs. Although repetitive, the same caveats from Sections 12.3.1, 12.2.1, and 12.1.1 are worth restating given the limitations of the data. The colour-code indicates the size of the increase – dark green for <10%, green for 11-20% yellow for 21-30%, orange for 31-40%, red for 41-60%, dark red for 61-100%, and black for >100%.

In summary, constructing public preschool facilities will require an enormous expense relative to current expenditure – between 57%-133% in aggregate depending on 'low' or 'high' cost scenarios given a 50pp increase in enrollment by 2025. However, unlike the voucher and subsidy model, the construction expenses would be once-off. This does not consider the ongoing costs of provision and the maintenance of the facilities, which will be borne by government in solely public provision.

Table 51: Increase in expenditure required for start-up grant compared to preschool expenditure in 2018 ('low cost)

Group	2025		2030
	20pp increase in enrollment	50pp increase in enrollment	50pp increase in enrollment
Group 1	20.50%	54.87%	50.62%
Group 2	24.97%	67.85%	64.00%
Group 3	26.23%	74.44%	79.79%
Group 4	36.69%	76.75%	70.11%
Group 5	10.95%	43.50%	27.36%
All	21.36%	57.01%	53.04%

Table 52: Increase in expenditure required for start-up grant compared to preschool expenditure in 2018 ('high cost)

Group	2025		2030
	20pp increase in enrollment	50pp increase in enrollment	50pp increase in enrollment
Group 1	47.84%	128.03%	118.12%
Group 2	58.27%	158.31%	149.33%
Group 3	61.20%	173.70%	186.18%
Group 4	85.61%	179.09%	163.60%
Group 5	25.55%	101.50%	63.84%
All	49.83%	133.03%	123.75%

12.5 Discussion

This section has compared three models of PPP – a voucher system, an operational subsidy, and a start-up subsidy. We have compared the costs of variations of each of these model to current preschool expenditure, and to the cost of fully public provision. For the purposes of discussion, we divided these scenarios into two categories: scenarios that require ongoing expenditure (operational subsidy, voucher system, public provision), and those that require upfront expenditure (start-up grant, publicly-funded construction).

12.5.1 Ongoing expenditure: vouchers and salary subsidies

Voucher and salary subsidy models would require two very different modes of financing; while voucher would be targeted for children not currently enrolled, subsidies will be paid to all

private preschools. Nonetheless, a voucher system would be more expensive than subsidies, owing to the larger value of the voucher relative to the size of the subsidy.

However, it is worth reflecting on the reason for this difference. The economic cost of preschool remains the same between both models; the difference is the proportion of this cost that is funded by government. In a voucher system, the LSG would cover 80% of the economic cost per a child. In the salary subsidy system, the LSG would cover 50% of the salary cost of a teacher in a classroom of 24 children. The remainder of the economic cost is borne by families and the private preschool. In other words, even though a salary subsidy may be more attractive from the financial perspective of government, this is because it shifts the cost of preschool provision to families and preschools.

It is also important to note that caveat at the beginning of this section. These scenarios do not take into account whether either model would actually lead to a 20pp or 50pp increase, but rather consider the relative cost of each model given a 20pp or 50pp increase. For the reasons discussed in Section 8, it appears likely that a voucher system would be more effective in increasing enrolments than a salary subsidy, chiefly because a voucher system is expected to have a more direct impact on affordability. In other words, while a salary subsidy may be cheaper, it is also less likely to be effective. We do not have sufficient data to comment on the relative cost-effectiveness of either model.

12.5.2 Upfront expenditure: start-up grants and publicly-funded construction

If the LSG were to be responsible for the construction of new preschool facilities, public provision is significantly more expensive than the PPP models considered. The costs of construction are substantial - between approximately 57% and 133% times current annual PSE expenditure.

In contrast, providing a start-up grant for new preschools would be significant cheaper for government than having direct responsibility for the construction new facilities. Depending on the value of the grant, and the cost of construction, our model indicates that a start-up grant would be between 13.9% and 65.2% of the cost of publicly funded construction. Further research is required to investigate the optimal value of the start-up grant. However, this analysis is sufficient to demonstrate it is financially more feasible for the LSG than solely public provision.

12.5.3 Caveat on comparing costs

The above analysis suggests that a voucher or subsidy model, even if combined with a start-up grant, is likely to be more financially feasible for the LSG than the cost of solely public provision. In the case of the voucher, this is because the value of the voucher is equal to the ongoing cost per child of public provision, as it is based on the "economic price" which is calculated on this basis. In other words, a voucher model would in theory entail the same ongoing costs to the LSG, while not requiring the LSG to invest in the substantial financial and administrative undertaking of constructing public facilities.

However, this assumes that the economic price used to calculate the value of the voucher accurately reflects the cost of public provision. We note in Section 5.5.1 that there appears to be variation between LSGs in how the economic price is calculated, due to ambiguities in the regulation. In Section 7.1, we identify the possibility that the City of Belgrade may be paying more for private provision per child than the cost of public provision. This is beyond the scope of the study, and further research on this point is required.

However, it is important to note that, in the long-term, if the value of the voucher exceeds the cost of public provision per child, then the voucher model will prove more expensive to the LSG than public provision (even including the cost of construction)[48].

[48] As an illustrative example, we can assume that a LSG ought to pay-off the costs of public construction in 20-years and an interest rate of 2%. If a new preschool for 69 children costs EUR300,000, the monthly cost per a child to pay back this capital investment (excluding other operational costs) over 20-years would be EUR20. Therefore, if the value of the voucher exceeds the cost of public provision per a child by EUR20, in the long-run public provision will be more affordable for the LSG.

13 Summative assessment of each model

In this section, we offer a summary of the analysis of each model.

13.1 Model 1A: Vouchers redeemable at private preschools

A voucher system appears to be the most effective and equitable model. A key advantage of this model is that it increases the accessibility of preschool directly by making preschool fees more affordable. Perhaps most importantly, this model also has as strong evidence-base within Serbia, and in multiple municipalities it is led to increases in enrolment overall. This also means that there is institutional 'know-how' with this model within government offices in-country. A further advantage is that this model carries limited risk of the LSG, as the voucher is only paid to the preschool post-hoc.

One concern about the model, however, was that it would not benefit preschools with a small number of enrolments, such as preschools in sparsely populated areas such as in many G2-5 municipalities, since the voucher was offered on a per child basis. This remains a concern. Although the preschools interviewed from G2 municipalities reported that reaching a minimum number of enrolments was not a challenge, this does not shed light on the situation in G3-5 municipalities, or the vast majority of G2-5 municipalities that do not seem to have a single private preschool.

The most significant concern is cost. In Section 12.1, we considered the potential costs nationally. A preschool-based voucher system that provides almost universal enrolment in 2025 at 80% of the economic price (assumed to be RSD 18,000), without any further increases in public preschool provision, would cost an additional RSD 13.6 billion (EUR 111.7 million) per year nationally**.** In the same of LSGs for which we had financial data, this represents an increase of 32% in aggregate, and between 47% and 51% for LSGs in G2-4.

If the voucher is paid directly to families, this model was the only model considered that did not require regulatory reform. However, we recommend that the voucher is paid directly to preschools for reasons concerning equity described previously. While Kragujevac and Niš have been able to do so by receiving written permission from families, we recommend revision to the legislation to ensure the legality of paying the voucher to preschools directly. We also recommend revision to standardise the approach between LSGs and provide policy certainty. A key consideration with the voucher model is the eligibility criteria for families as well as the mode of payment. The most equitable variations of the model based the eligibility criteria on socio-economic need, and paid the voucher directly to preschools.

13.2 Model 1B: Vouchers redeemable at private preschools and with private family nurseries

Although this model is promising, it was the most challenging to assess. This is because it has not yet been piloted in Serbia, and thus, unlike private preschools, the data on family nurseries' costs and enrolment are not available. This also meant that it was not possible to speak to family nurseries about possible models.

The case study of the use of this model in Latvia would suggest that it would lead to an increase in enrolment and private family nurseries, but that it would be difficult for the LSG to effectively monitor quality and compliance. The interviews with LSGs in Serbia echoed this concern, as administrative capacity was identified as a key constraint. This model would also require the most regulatory reform, in order to recognise family nurseries as providers of preschool and create the necessary qualifications.

This model warrants further investigation, but it is beyond the resources of this assignment. Further research would pursue the economic cost of provision, the means and costs of providing the qualification framework, consideration of the necessary administrative capacity within LSGs, and an assessment of demand from both families and prospective family nurseries.

13.3 Model 2A and 2A*: an operational subsidy linked to the number and salaries of teachers

Although these subsidy models are promising, they nonetheless present significant limitations. A key advantage of this model is that it is less expensive than voucher models. A subsidy model in 2025 that covers 50% of teachers' salaries would cost an additional RSD 8 billion (EUR 59.7 million) per year nationally. In our sample of LSGs, this represented an increase of only 20.5% of preschool expenditure in aggregate.

However, the key disadvantage is that although a subsidy would reduce the cost to providers of providing preschool, it is not clear whether this would lead to a decrease in fees. All of our exploratory interviews with preschool providers suggested that such a model would leave the fees charged to families unchanged. Those preschools in G2-5 municipalities reported that it would lead to an increase in teacher salaries, while those preschool in G1 municipalities reported that teacher salaries would remain unchanged. In sum, subsidies of this nature may lead to an increase in the supply of preschool by attracting more proprietors and teachers, but the direct effect on affordability is unclear.

An operational subsidy would also require significant regulatory reform in order to enable LSGs to fund private preschools directly. The LSGs interviewed were also critical of this model, since it would require that the LSGs engage with preschools staffing decisions.

13.4 Model 2B and 2B*: a subsidy provided per child for private preschools

One of the key distinctions between these models and the standard voucher model is whether the eligibility criteria for the subsidy should relate to the family (i.e. a voucher) or the preschool (i.e. a subsidy). Two types of criteria for the family appear most relevant: socio-economic criteria, and whether they have been rejected from a public preschool.

The use of socio-economic criteria, which the voucher system enables, is important for equity. Otherwise, like in Models 2A and 2A*, it is unclear whether the subsidy would lead to an increase in affordability of vulnerable and marginalised families. This is perhaps the strongest argument in favour of a voucher system over a per child subsidy.

The criterion of having been rejected from a public preschool, however, is much more controversial. The private preschools were clearly in favour of removing this criterion, as it would enable them to compete directly with public preschools. This would also enable families to have greater choice. On the other hand, there is a risk that such a measure may lead to families leaving the public preschool system in favour of private provision. This, in turn, carries multiple risks – such as increased segregation, or a spiral of reduced funding of public preschools. The trade-off between these benefits and risks is an ideological and political decision, and it is beyond the scope of this assignment to decide these.

It was intriguing to find that an LSG in G2 was also implementing this model with eligibility criteria for families. The use of this model in Sombor requires further research, but unfortunately, we were unable to access further information of this LSG. In terms of costs, this model would be the same as the preschool-based voucher system.

13.5 Model 3C: Start-up subsidy

There are two primary benefits of the start-up subsidy. First, it aims to address what may be a key bottleneck to the entry of more private preschools into the market – the considerable upfront costs required to open a preschool. The private providers interviewed for the study had to secure financial support, either through banks, their families, or a financial windfall in terms of inheritance. A start-up subsidy may make opening a new preschool more feasible

for more prospective providers, especially if they otherwise would struggle to access additional finance.

However, a start-up subsidy alone would not address another key bottleneck – the ongoing financial viability of private preschools. This is especially true for preschools that would serve vulnerable and marginalised families, for whom 'standard' preschool fees would be unaffordable. This presents a significant dilemma for this model, discussed in Section 9.2.4. If the start-up grant is paid to preschools which are financially viable on an ongoing basis, then it may be redundant since such preschools are the most likely to be able to access traditional finance. Conversely, if the start-up grant is paid to preschools which are *not* financially viable, then it is wasteful unless supplemented with an ongoing subsidy.

The second benefit of the start-up subsidy is that it is significant cheaper for the LSG than constructing preschool facilities directly. In our model, a start-up subsidy varied between 14% to 65% of the cost of a publically provided facility, depending on the size of the subsidy and the cost of construction. This is significantly more feasible than solely public provision, for which the construction costs alone would require the equivalent of more than double LSGs current PSE expenditure.

However, a start-up subsidy bears the most risk of the LSG of the subsidy models considered. This is because it requires a transfer to the preschool *prior* to the provision of services. This is a risk because the preschool may fail to provide these services (such as if it closes), or it may provide these services initially but change their model in the long-term. These risks can and should be mitigated by staggering the payment of the start-up subsidy in tranches, based on milestones such as completing the first school term. However, if the purpose of the start-up subsidy is to reduce the barrier to entry posed by prohibitive upfront costs, paying preschool provides prior to the provision of services is unavoidable.

The start-up model is not mutually exclusive to either the operational subsidy or voucher programme. A key consideration is whether (i) it is sufficient instead of either of these models, or whether (ii) it is rendered unnecessary by either of those models. We do not have sufficient data to answer this question conclusively. The demonstrable increase in private provision following the introduction of the voucher system in the LSGs considered in this study suggest that a start-up grant may be unnecessary. This would need to be tested in less developed municipalities.

13.6 Concession models

Model 3A: selected private providers in eligible municipalities would receive substantial support from the government which may extend to the funding of salaries and infrastructure (i.e. a large concession).

This model was rejected after the initial analysis. This is because it would require a substantial degree of risk from the LSG, and this was to a much larger extent than any of the other models considered. It would also restrict the access of other private preschools providers that would otherwise compete in the same market, and this would create a barrier to increase enrolment.

Model 3B: LSGs would provide select private preschools with preferential access to facilities, such as through lower rent (i.e. a medium concession)

The initial analysis revealed substantial limitations with this model. The model would be restricted to the number of unused facilities owned by the LSG, and that these facilities would require significant renovation to meet the regulatory standards for preschool. Moreover, the limit in available facilities would also create an unfair advantage for selected private providers over the rest of the market. A variation of this model was considered in which the LSG would purchase prefabricated classrooms and rent these to private providers. This would require significant regulatory reform, however. This model was eventually rejected after pilot interviews with private preschool providers.

Model 3C: LSGs underwrite a minimum number of places for selected private providers in eligible municipalities (i.e. a small concession)

This model fared well in the initial analysis, as it would entail relatively limited market distortion and limited risk for the LSG while also enable preschools to open in sparsely populated areas. This model would require some regulatory reform, in order to enable LSGs to enter into agreements of this nature with private providers.

However, private providers in G2 municipalities uniformly reported that enrolling a minimum number of children was not a challenge and thus consequently this model was redundant. This model may warrant further research in order to understand its potential impact in G3-5 municipalities, but this is beyond the resources of this assignment.

14 Conclusion and recommendations

In this section, we offer our primary recommendations as to which model of PPP may be most suitable to expand access to preschool equitably in Serbia (14.1). We also offer a second set of recommendations, which address the regulatory and social context of preschool in general (14.2).

14.1 Proposed model

Overall, a voucher system is the most feasible model for expanding preschool in Serbia. This is for the following reasons:

- It is equitable and relatively efficient, since the conditions for the voucher can be used to target families which otherwise would have been unable to access preschool;
- It is relatively effective, since it directly targets the affordability of preschool for families - unlike a subsidy model;
- It poses limited financial risk to the LSG, since the voucher is only paid to the preschool based on actual enrolments and attendance;
- It is already used within Serbia, and the avaliable evidence would suggest that it has led to a substantial increase in enrolment. This also means that there already is institutional knowledge about the delivery of the model within Serbia;
- It does not restrict competition or prevent new preschools from entering the market;

The voucher model is also substantially more affordable to government than public provision, primary because the private provider is responsible for the construction and maintenance of the facilities. However, as explained in Section 12.5.3, this is only true if the value of the voucher is equal to the cost of public provision per a child. While this is what is currently intended by setting the value of the voucher based on the “economic price”, we have recommended that the regulations governing the calculation of the economic price be revised to reduce ambiguity in the methodology for doing so[49]. If the economic price is calculated incorrectly and value of the voucher exceeds the cost of public provision, then public provision will be more affordable for the LSG in the long-term, even accounting for the costs of construction.

As discussed in Section 13.1, we recommend that the eligibility criteria for the voucher be based on families’ socio-economic need. This entails that eligibility for the voucher should

[49] See Section 5.5.1 and Section 7.1 for further details.

not require that both parents be employed, as this disadvantages unemployed families which have considerable socio-economic need. We also recommend that the voucher be paid directly to preschools, rather than to families, since vulnerable and marginalised families may struggle to afford the upfront cost of preschool even if they are reimbursed within a few months.

The voucher model is suitable for G1 and G2 municipalities. Indeed, it is already being delivered in municipalities in both of these levels. A key reason that the voucher model does not need to be restricted to less developed municipalities is because the voucher is allocated based on the eligibility criteria of the *family*. Consequently, it is successful in avoiding the inefficiency of subsiding wealthy and/or families that are already enrolled. It is likely that it is also suitable for less developed municipalities, but this is less certain as discussed in Section 14.3.

Finally, we recommend that the experiences of LSGs in implementing the voucher model should be systematically leveraged. This may be through facilitating learning between LSGs, such as through conferences and comprehensive research briefs. Regulatory reform should be considered to standardise the model across municipalities and to offer private preschools a degree of policy certainty. Once this model has been piloted more widely, a further study on the uptake of the programme can be conducted in order to investigate the necessity of a start-up grant in conjunction to a voucher system.

14.2 Systemic constraints

The voucher model will not address many of the other systemic barriers to increasing access to preschool, however. We briefly address five of these.

14.2.1 Registration

The process for registering a private preschool in Serbia should be simplified.

Registering a preschool in Serbia reportedly an onerous process, lasting many months or as long as a year. The private preschools interviewed in this study suggested that this was the primary barrier to more private preschools opening. Since registration is a precondition for any model of PPP, as eligible providers would need to first register as preschool, the uptake of any model of PPP would be limited until this is addressed.

There is little information on how Serbia's registration process compares internationally, other than to note that other countries have undertaken efforts to make their registration processes easier. This would imply that a long and arduous registration process is common

internationally, and widely recognised as a challenge. The UK, for example, commissioned a special report on the administrative difficulties that childcare services encounter when engaging with the state. Australia instituted a similar commission. Alberta, in Canada, is notable for having a 'Ministry of Red Tape Reduction'. In each of these initiatives, the commission has input extensive public input on the challenges that preschools face.

The recommendations common across all of the aforementioned commissions is to (i) make instructions regarding the administrative processes clearer, (ii) critically examine the necessity of each administrative procedure, (iii) reduce duplication between procedures[50], and (iv) improve inter-departmental coordination. Serbia may consider the feasibility of a 'one-stop shop' for preschool registration. This would provide a single portal through which preschools can submit their registration requirements and track their progress towards approval. A review of the registration process.is also advisable; while the LFSE stipulates that the approval process should not take more than 3-months, our interviewees reported that it frequently takes longer in practice.

14.2.2 Financing

Funding for LSGs in less developed municipalities needs to be increased in access to preschool is to be expanded equitably.

In the models considered in this report, the LSG would be responsible for providing the funding to private preschools. However, the reliance on LSGs for the financing of the majority of preschool provision is a contributing factor to disparities in enrollment rates, since wealthier municipalities are able to provide greater resources for preschools (Baucal and Lebedinski, 2017). It is notable that even in the most developed municipalities interviewed in this study, the key constraint to expanding enrolment further was a lack of available finance – this is likely to be much more significant a constraint in less developed municipalities.

Our economic analysis of the projected increase in expenditure required relative to current PSE expenditure relied on data from 26 LSGs. LSGs in G2-5 were unrepresented in this data, and we therefore recommend that additional analysis be undertaken to gauge the quantum of funding required in less developed municipalities. Based on our analysis of the sample, however, G2-4 would require the largest proportional increases to meet demand, especially for the voucher model. Preschool enrolments are unlikely to increase substantially without

[50] Such as separate health and safety inspections for a kindergarten and an aftercare service.

significant increase in expenditure, and educational inequality will not decrease unless that expenditure is not limited to municipal budgets.

Greater clarity is needed on the calculation of the economic price of preschool

There is considerable variation between the calculated per pupil cost and the reported economic price, and this is relevant to PPP price setting as the economic price is used to set the value of the voucher. Large differences between the calculated per pupil cost and the declared economic cost highlight the importance to provide more clarity on the exact mechanism how to determine the economic price. A standardised and transparent approach to calculating economic price, in particular clear instructions how to price non-attending children and thus correct the economic price for attendance, would provide reassurance that private providers are being treated fairly, and that the LSG is not paying more for private provision than public provision.

14.2.3 Quality inspections

Quality inspections should be standardised across both public and private preschools.

Preschools, whether public or private, require support and supervision in order to ensure that families receive an adequate level of service. At present, schools receive visits from inspectorates to ensure compliance with standards, and supervision visits from educational advisors who provide feedback on the quality of pedagogy.

There appear to be a shortage of inspectors. According to the rulebooks of the MoESTD, regional and local governments, there should be 251 inspectors nationally. However, it appears that only 175 inspectors have been appointed in 2019/20.[51] It is therefore likely that both private and public preschools do not receive adequate support in this regard.

Unlike education inspectorates, the frequency of visits from educational advisors is determined by the MoESTD at a branch-level. The annual work-plans for these visits are not publically avaliable online. Nonetheless, the interviews conducted for this study suggest that educational advisors may visit private preschools very infrequency. There is thus scope for more pedagogical support for private providers.

[51] Annual report on the work of the educational inspection for the school year 2019/2020, available at: http://www.mpn.gov.rs/prosveta/prosvetna-inspekcija/, accessed 16 December 2020.

14.2.4 Information on private preschools and LSG capacity less developed municipalities

More information is required on LSGs in Groups 3 – 5, particularly regarding the capacity of the LSG to implement the voucher model and the barriers affecting private preschools.

The datasets considered for this study reported that there were only two private preschools in Group 3 and Group 4, and none in Group 5. The research team was unfortunately unable to find contact details for these two preschools. Further information is therefore required in order to validate whether the voucher model would be appropriate in LSGs in Groups 3 – 5.

This study also did not include an assessment of the capacity of LSGs to implement PPPs. This is obviously key consideration for the success of any model. This may be less of a concern for LSGs in Groups 1 and 2, as some of these are already implementing a voucher model. Further information is required, however, especially on LSGs in Groups 3 – 5. The concurrent initiative on 'Support to Preschool Education System Reform in Serbia' (SUPER), which includes on focus on the professional capacities of local government, may be helpful in this regard (SUPER, n.d.).

14.2.5 Demand

There is a need to establish the extent of demand for preschool, and campaigns to encourage enrollment need to be pursued if necessary.

It was beyond the scope of this to investigate the extent to which there is a demand for preschool in Serbia. In MICS 2014[52], parents of children from 3 to 5 years old who did attend preschool were asked for their reasons for non-enrollment. The primary reason offered (by 59% of the general population and 54% among Roma) appeared to be the availability of adequate care at home. However, this was strongly influenced by wealth – the availability of adequate care at home was offered as the reason by 80% of the wealthiest households and only 46% of the poorest households.

Baucal et al., (2017) analysis of ECEC in ten municipalities in Serbia reported that the "majority of Roma families are left on their own and the majority of Roma parents have not tried to enrol their children". A contributing factor was discrimination, which was also reported as a barrier to enrollment in focus groups with parents conducted by the World Bank (2016). This included both a fear that their child would be bullied or teased, and their own discomfort in receiving disdain from the preschool staff. One focus group discussed a proposal to open a Roma-only

[52] This question was not included in MICS 2019.

preschool; however, participants were divided between prioritising integration and safety. Conversely, focus groups with school principals conducted in the same study reported that they received very few applications from families in socially vulnerable groups. They also reported that parents from these families were often unresponsive to direct calls or efforts to "familiarise parents with the offer and benefits of preschool education".

Although the models considered in this study may increase the supply and affordability of preschool, this is a moot point if families do not wish to enrol their children. Further research on this is advisable, as well as campaigns to encourage enrolment.

14.3 Summary of recommendations

In summary, we offer the following 5 recommendations:

1. The **voucher system** is the most advisable model for expanding access to preschool equitably in Serbia, in both urban and rural municipalities.
2. A **deliberate focus on equity** is necessary to counter-balance current enrollment trends –
    a. The vouchers should be allocated according to **a set of criteria based on socio-economic need**, and these vouchers should be paid directly to preschools;
    b. A **substantial increase in funding** is required for less developed LSGs to reach enrollment targets**.** These LSGs have both the lowest enrolment rates and the smallest budgets for preschool.
    c. The means of **calculating the economic price of preschool should be standard and transparent** across LSGs. This will enable greater fairness of private providers, and improve equity between LSGs.
3. **Simplifying the process for registering a preschool** is essential for the uptake of any PPP –
    a. In other countries, such as the UK and Australia, this has been achieved after a process of **public consultation to identify bottlenecks**;
    b. A dedicated '**PPP Centre'** may also assist preschools through the registration process.
4. Policy consistency and peer learning should be facilitated across LSGs –
    a. Regulatory reform to **clarify key legislation** would ensure consistency between LSGs and provide policy certainty for preschools;
    b. LSGs should be supported to learn from each other's use of voucher models, such as through **facilitated learning exchanges** or research briefs;

5. The suitability of the voucher model of implementation in less developed municipalities requires further research aiming to identification of specific enablers and barriers, especially in G3-5;

    a. **Less developed municipalities may require additional support in administering the voucher system**, and more research on the current capacities and specific barriers of these municipalities is advisable;

    b. **Further research, and ideally a pilot, of the voucher model in less developed municipalities is recommended** in order to validate the effectiveness and fine-tunings of the model and determine the efficiency of combining the voucher model with a start-up grant.

References

Allcot, H. & Ortega, D. (2009) The Performance of Decentralized School Systems: Evidence from Fe Y Alegría in República Bolivariana de Venezuela. In Barrera-Osorio, F., Patrinos H.A. & Wodon Q. (eds), *Emerging Evidence on Vouchers and Faith-Based Providers in Education*, Washington, D.C: World Bank.

Aran, M., Munos-Boudet, AM., Aktakke, N. (2018). *Building an ex-ante simulation model for estimating the capacity impact, benefit incidence, and cost effectiveness of child care subsidies in Turkey*. International Journal of Child Care and Education Policy, 12(15).

Aslam, M., Rawal, S., & Saeed, S. (2017). *Public–private partnerships in developing countries: a rigorous review of the evidence*. London: Education Partnership Group.

Bano, M. (2017). Partnerships and the good-governance agenda: Improving service delivery through state–NGO collaborations. *International Society for Third-Sector Research*, [avaliable: https://ora.ox.ac.uk/branches/uuid:b163a014-cd72-4b7d-85d5-668fb94561fd/download_file?file_format=pdf&safe_filename=Bano-2018.pdf&type_of_work=Journal+article (accessed 12 November 2019)]

Barrera-Osorio, P., Galbert, P., Habyarima, J., Mulindwa, I. & Sabarwal, S. (2016) *Public-Private Partnerships in Education: Evidence from a Randomised Control Trial in Uganda*. Washington, DC: World Bank.

Barrera-Osorio, F. 2007. "The Impact of Private Provision of Public Education: Empirical Evidence from Bogota's Concession Schools." *World Bank Policy Research Working Paper No. 4121*, Washington, DC.

Baucal, A. & Lebedinski, L. (2017). *Systematic analysis of ECEC financing in Serbia*. Draft provided by authors.

Baucal, A., Miskeljin, & Milivojevic, Z. (2016). *ECEC situational analysis at the municipality level: 10 municipalities.* Belgrade: World Bank.

Baucal, A., Breneselović, D. P., Miškeljin, L., Koruga, D., Stanić, K., and Avramović, M. (2016). ECEC in Serbia: Situational analysis and recommendations. WB report provided by UNICEF.

Baucal, A. & Ranković, T. (2010). *Education in Serbia: thematic review 2019.* Belgrade: European Investment Bank.

Bettinger, E. (2011). Educational Vouchers in International Contexts. In E. Hanushek, S. Machin, & L. Woessmann (eds,), *Handbook of the Economics of Education*, 4: 551–572.

Bettinger, E., Kremer, M., & Saavedra, J. E. (2010). Are educational vouchers only redistributive? *The Economic Journal*, 120: 204–228.

Bettinger, E. (2005) *Lessons from Private- School Vouchers in Colombia*, Federal Reserve Bank of Cleveland: Cleveland OH [avaliable: www.clevelandfed.org/

research/EdConf2005/Papers/ BettingerPaperFINALweb.pdf]

Bonilla-Angel, J. (2011) Contracting out public schools and academic performance: Evidence from Columbia, PhD Thesis, University of Maryland

Brants, M., Mileiko, I., Korpa, V., Brekis, E., Vaine, I., Laizane, M., Lasmane, E., Zalans, K., Kulberga, L., & Eglite, E. (2018). *Study under the project "voucher for the provision of flexible child-minder service to workers with nonstandard work schedules – final report*. Riga: Projektu Un Kvalitates Vadiba.

Braun, V. & Clarke, V. (2006). 'Thematic analysis', in H. Cooper (ed) *APA Handbook of Research Methods in Psychology*. Washington D.C: American Psychological Association.

Cleveland, G. (1992). *Forecasting the Demand for Child Care Arrangements: A New Statistical Technique*. Department of National Health and Welfare, Toronto, Canada.

DfID. (2014). *Assessing the strength of evidence.* How To Note, March 2014. London: DfID.

Downing, P. & Rose, P. (2019). *Education partnerships between the state and non-state sector: early insights from the evidence hub.* Cambridge: REAL Centre.

EPG & REAL Centre. (2019). *Education partnerships between the state and non-state sector: evidence hub.* [Available: https://edpartnershipsevidence.org/ (accessed 12 November 2019)]

EACEA. (2020). *Eurydice: Finland.* [Available: https://eacea.ec.europa.eu/national-policies/eurydice/content/early-childhood-education-and-care-25_en (accessed 23 June 2020] EACEA. (2019a). *Eurydice: Austria.* [Available: https://eacea.ec.europa.eu/national-policies/eurydice/content/early-childhood-education-and-care-1_en (accessed 12 November 2019)]

EACEA. (2019b). Key data on early childhood education and care in Europe – 2019 edition. *Eurydice Report.* Luxembourg: Publications Office of the European Union.

EACEA. (2018a). *Eurydice: Slovenia.* [Available: https://eacea.ec.europa.eu/national-policies/eurydice/content/early-childhood-education-and-care-77_en (accessed 12 November 2019)]

EACEA. (2018b). *Eurydice: Latvia.* [Available: https://eacea.ec.europa.eu/national-policies/eurydice/content/early-childhood-and-school-education-funding-40_en (accessed 12 November 2019)]

EACEA. (2018c). *Eurydice: Norway.* [Available: https://eacea.ec.europa.eu/national-policies/eurydice/norway/early-childhood-education-and-care_en (accessed 12 November 2019)]

EACEA. (2017). *Eurydice: Latvia – Organisation of Private Education*. [Available: https://eacea.ec.europa.eu/national-policies/eurydice/content/organisation-private-education-40_en (accessed 22 June 2020)]

Early Childhood Education Act 13/07/2018/540 (Finland) (2018). [Available: https://www.finlex.fi/fi/laki/ajantasa/2018/20180540 (accessed 23 June 2020)]

Government of Serbia. (2018). *Call for action: early development*. Belgrade: Government of Serbia. [Available: http://www.savetzapravadeteta.gov.rs/doc/dokumenta/Poziv-na-akciju.pdf (accessed 12 November 2019)]

Gustafsson-Wright, E., Smith, K., & Gardiner, S. (2016). *Public-private partnerships in early childhood development: the role of publicly funded private provision*. Discussion Paper. Washington, D.C: Brookings Institute.

Gustafsson-Wright, E., Boggild-Jones, I., and Gardiner, S. (2017). The Standardized Early Childhood Development Costing Tool (SECT): A Global Good to Increase and Improve Investments in Young Children. Center for Universal Education at Brookings.

Haug, P. (2014). The public–private partnership in ECEC provision in Norway. *European Early Childhood Education Research Journal*, *22*(3): 366-378.

Heckman, J. J. (2011). Effective child development strategies. *The Pre-K debates: Current controversies and issues.* Baltimore, MD: Paul H. Brookes.

Heralova, R. (2014). 'Life cycle cost optimisation within decision making on alternative designs of public buildings', *Procedia Engineering*, 85: 454 – 463,

Hsieh, C. & Urquiola, M. (2006) The effects of generalized school choice on achievement and stratification: Evidence from Chile's school voucher program. *The Journal of Public Economics*, 90: 1477–1503.

Irfan, S., & Nutlet, S. (2016). *Turning around failing schools - lessons from Lahore*. [avaliable: https://research-repository.st-andrews.ac.uk/bitstream/handle/10023/13530/Turning_around_failing_schools_final_accepted_version_Oct_2016.pdf?sequence=1&isAllowed=y (accessed 12 November 2019)]

Ivanovs, M. and V. Korpa (2015). Provision of quality early childcare services (Czech Republic, 10-11 November 2015), Comments paper - Latvia. [available https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwjKzK2e5bXlAhWrRRUIHQ9rD_wQFjAAegQIAxAC&url=https%3A%2F%2Fec.europa.eu%2Fsocial%2FBlobServlet%3FdocId%3D14821%26langId%3Den&usg=AOvVaw1tlUuHyduv8lxMfjuB3YaR (accessed 24 October 2019)]

Kim J., Alderman H., & Orazem P. (1999). 'Can private school subsidies increase schooling for the poor? The Quetta Urban Fellowship Program' *Policy Research Working Paper Series 11*. Washington, DC: World Bank.

Kumpulainen, K. (2018). *Respecting children and families: a case study of the Finnish early childhood education and care system*. Washington, D.C: National Centre on Education and the Economy.

Languille, S. (2017). Public private partnerships in education and health in the global South: a literature review. *Journal of International and Comparative Social Policy*, *33*(2), 142–165.

LaRocque, N. (2008). *Public-private partnerships in basic education: An international review*. Reading: CfBT Education Trust.

LaRocque, N. & Lee, S. (2010) *Non-State Providers and Public-Private Partnerships in Education for the Poor*. Bangkok: UNICEF.

Levin, H. M. (1988). Cost-Effectiveness and Educational Policy. *Educational Evaluation and Policy Analysis* 10(1): 51-69.

Levin H. M., McEwan P. J. (2003) Cost-Effectiveness Analysis as an Evaluation Tool. In: Kellaghan T., Stufflebeam D.L. (eds) International Handbook of Educational Evaluation. Kluwer International Handbooks of Education, Vol 9. Springer, Dordrecht. https://doi.org/10.1007/978-94-010-0309-4_10

Malik R., Bari, F., Muzaffar, I., Mashhood T., Mansoor M. & Ali A. (2015) *Partnerships for management in education: evidence from Punjab and Sindh*, Lahore: Institute of Development and Economic Alternatives.

Malik, A. (2010) *Public-private partnerships in Education: Lessons Learned from Punjab*. Mandaluyong City: Asian Development Bank.

McEwan P. J. (2012). Cost-effectiveness analysis of education and health interventions in developing countries. *Journal of Development Effectiveness* 4(2): 189–213.

Mizala, A. & Torche, F. (2017). Means-tested school vouchers and educational achievement: evidence from Chile's universal voucher system. *The Annals of the American Academy of Political and Social Science*. 674(1): 163-183.

Morgan, C., Petrosino, A., & Fronius, T. (2015). The impact of school vouchers in developing countries: A systematic review. *International Journal of Educational Research*, *72*, 70–79.

Munn, Z., Micah, D., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018) 'Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach', *BMC Medical Research Methodology, 18.*

Muralidharan, K. & Sundararaman, V. (2015) The aggregate effect of school choice: evidence from a two stage experiment in India. *Quarterly Journal of Economics*, 130 (3), 1011–1066.

Myers, Robert G. (2008). Costing early childhood care and development programs. Online Outreach Paper 5. The Hague, The Netherlands: Bernard van Leer Foundation.

Naudeau, S. K. (2010). *Investing in Young Children.* Washington, DC: World Bank.

NOOIS, (2017). Situation analysis: position of children with disabilities in the Republic of Serbia. Belgrade: NOOIS.

Nowell, L, Norris, J., White, D., & Moules, N. (2017). 'Thematic analysis: striving to meet the trustworthiness criteria', *International Journal of Qualitative Methods*, 16(1).

Oberhuemer, P., Schreyer, I., Neuman, M. (2010). *Professionals in early childhood education and care systems: European profiles and perspectives*. Opladen & Farmington Hills: Barbara Budrich Publishers.

OECD (2019). *Principles for Public Governance of Public-Private Partnerships*. Paris: OECD.

OECD (2016). *Education in Latvia*, Reviews of National Policies for Education, Paris: OECD.

OECD. (2015). *Norway*. Early Childhood Education and Care Policy Review. Paris: OECD.

OECD. (2006). *Starting strong II: early childhood education and care*. Paris: OECD.

Osorio, J. & Wodon, Q. (2014) Faith-based schools in Latin America: Case studies on Fe Y Alegria, World Bank, Washington DC.

Patrinos, H. A., Barrera-Osorio, F., & Guáqueta, J. (2009). *The role and impact of public-private partnerships in* education. Washington, D.C: World Bank.

Rašević, M., & Penev, G. (2006). Demografska slika Beograda na početku 21. veka. *Stanovništvo* (Beograd), XLIV, 1: 81-96.

Ruutiainen, V., Alasuutari, M., & Kirsti, K. (2019). Rationalising public support for private early childhood education and care: the case of Finland, *British Journal of Sociology of Education,* DOI: 10.1080/01425692.2019.1665497*.*

Säkkinen, S., and T. Kuoppala. 2017. “Varhaiskasvatus 2016.” THL: N tilastoraportti 29/2017.

Schreyer, I. and P. Oberhuemer (2017a). “Austria – Key Contextual Data”. In *Workforce Profiles in Systems of Early Childhood Education and Care in Europe*, edited by P. Oberhuemer and I. Schreyer. [Available: www.seepro.eu/English/Country_Reports.htm (accessed 24 October 2019)]

Schreyer, I. and P. Oberhuemer (2017b). “Slovenia – Key Contextual Data”. In *Workforce Profiles in Systems of Early Childhood Education and Care in Europe*, edited by P. Oberhuemer and I. Schreyer. [Available: www.seepro.eu/English/Country_Reports.htm (accessed 24 October 2019)]

Shakeel, D., Anderson, K. & Wolf P. (2016) The Participant Effects of Private School Vouchers Across the Globe: A Meta-Analytic and Systematic Review, *EDRE Working Paper 2016–07*, Fayetteville: University of Arkansas.

Social Inclusion and Poverty Reduction Unit & UNICEF (2015). *Policy impact analysis: providing additional support to students from vulnerable groups in pre-university education*. Belgrade: UNICEF.

Sriram, S., R. Venkataraman, and L. Chen (2014). *Partnering for outcomes: Public-private partnership for school education in Asia*. London: McKinsey Center for Government.

Statistical Office of the Republic of Serbia and UNICE (2019). Serbia Multiple Indicator Cluster Survey and Serbia Roma Settlements Multiple Indicator Cluster Survey, 2019, Survey Findings Report. Belgrade, Serbia: Statistical Office of the Republic of Serbia and UNICEF.

SUPER, n.d. [Avaliable: https://super.euzatebe.rs/en/about-project] (accessed 5 January 2021).

UNICEF. (2015). UNICEF procedure for ethical standards in research, evaluation, data collection, and analysis. Document No. CF/PD/DRP/2015-001. [Available: https://www.unicef.org/supply/files/ATTACHMENT_IV-UNICEF_Procedure_for_Ethical_Standards.PDF (accessed 12 November 2019).

Uribe, C., R. Murnane, J. B. Willett, and M. Somers. (2006). "Expanding School Enrollment by Sub- sidizing Private Schools: Lessons from Bogotá." *Comparative Education Review*, 50(2): 241–277.

Viitanen, T. K. (2008). *Public versus Private Provision of Daycare: An Experimental Evaluation.* Discussion Paper Series IZA DP No. 3009. Bonn: IZA.

Vujić, S., Baronijan, H., & Baucal, A. (2012). *Investing in early childhood education in Serbia.* Belgrade: UNICEF.

Weitner, S. (2018). *Evaluation of results under the project 'provision of flexible childcare service for employees who work non-standard hours'.* Riga: LM2018/24-1-1332/05.

Wodon, Q. & Ying, Y. (2009) Literacy and Numeracy in Faith-Based and Government Schools in Sierra Leone. In Barrera-Osorio, F., Patrinos H.A. & Wodon Q. (eds), *Emerging Evidence on Vouchers and Faith-Based Providers in Education*, Washington, D.C: World Bank.

World Bank. (2018). *World Bank supports early childhood development in Serbia, adding room for 17,000 more pre-schoolers.* Press Release, March 13 2018. [Available: https://www.worldbank.org/en/news/press-release/2018/03/13/world-bank-supports-early-childhood-development-in-serbia-adding-room-for-17000-more-preschoolers (accessed 12 November 2019)]

Studies cited in Patrinos et al., 2009 and Aslam et al. 2017 reviews

Allcot, H. & Ortega, D. (2009) The Performance of Decentralized School Systems: Evidence from Fe Y Alegría in República Bolivariana de Venezuela. In Barrera-Osorio, F., Patrinos H.A. & Wodon Q. (2009) Emerging Evidence on Vouchers and Faith-Based Providers in Education, The International Bank for Reconstruction and Development / The World Bank, Washington DC.

Amjad, R. & McLeod, G. (2014) Effectiveness of Private, Public and Private-Public Partnership schools in Pakistan. International Journal of Educational Development, 37, 22–31.

Anand, P. Mizala, A. & Repetto, A. (2009) Using school scholarships to estimate the effect of private education on the academic achievement of low-income students in Chile. Economics of Education Review, 28, 370–381.

Andrabi, T., Das, J., Khwaja, A.I., Ozyurt, S. & Singh, N. (2015) Upping the Ante: The Equilibrium Effects of Unconditional Grants to Private Schools, Pomona, The World

Bank, Harvard & Sabanci.

Angrist, J., E. Bettinger, E. Bloom, E. King, and M. Kremer. (2002) “Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment.” American Economic Review 92(5): 1535–58.

Angrist, J., E. Bettinger, and M. Kremer.(2006) “Long-Term Educational Consequences of Secondary School Vouchers: Evidence from Administrative Records in Colombia.” American Economic Review 96(3): 847–62.

Barerra Osorio. et al (2015) Leveraging the private sector to improve primary school enrolment: Evidence from a randomised controlled trial in Pakistan, Mimeo.

Barrera-Osorio, P., Galbert, P., Habyarima, J., Mulindwa, I. & Sabarwal, S. (2016) Public-Private Partnerships in Education: Evidence from a Randomised Control Trial in Uganda, The World Bank.

Bettinger, E. 2005. “The Effect of Charter Schools on Charter Students and Public Schools.” Economics of Education Review 24 (2): 133–147.

Bifulco, R., and H. F. Ladd. 2006. “The Impact of Charter Schools on Student Achievement: Evidence from North Carolina.” Journal of Education Finance and Policy 1(1): 778–820

Bonilla-Angel, J. (2011) Contracting out public schools and academic performance: Evidence from Columbia, PhD Thesis, University of Maryland

Booker, K., S. M. Gilpatric, T. Gronberg, and D. Jansen. 2008. “The Effect of Charter Schools on Traditional Public School Students in Texas: Are Children who Stay Behind Left Behind?” Journal of Urban Economics 64(1): 123–145.

Contreras, D., Bustos, S. & Sepúlveda, P. (2009) When Schools Are the Ones That Choose: Policy Analysis of Screening in Chile. In Barrera-Osorio, F. Patrinos H.A. & Wodon Q. Emerging Evidence on Vouchers and Faith-Based Providers in Education, The International Bank for Reconstruction and Development / The World Bank, Washington DC.

Crawfurd, L. (2016) School Management in Uganda, Center for Global Development & University of Sussex.

Economic Policy Research Centre (2016) Evaluation of the PEAS network under Uganda Universal Secondary Education Programme — Baseline Report.

DFID (2014) How To Note on Assessing the Strength of Evidence. London: 1–21

Elacqua, G., Contreras, D. & Salazar, P. (2009) The Effectiveness of Franchises and Independent Private Schools in Chile’s National Voucher Program. In Barrera-Osorio, F. Patrinos H.A. & Wodon Q. Emerging Evidence on Vouchers and Faith-Based Providers in Education, The International Bank for Reconstruction and Development / The World Bank, Washington DC.

Elacqua, G., Contreras, D., Salazar, F. & Santos, H. (2011) The effectiveness of private school franchises in Chile’s national voucher program. School Effectiveness and School Improvement, 22 (3), 237–263.

Gallegos, F. (2004) “School Choice, Incentives, and Academic Outcomes: Evidence from

Chile." Boston: MIT Press.

Hanushek, E. A., and L. Woessmann. (2007) Education Quality and Economic Growth. World Bank, Washington, DC

Himmler, O. 2007. "The Effects of School Choice on Academic Achievement in the Netherlands." Georg-August-Universität Göttingen, Sweden.

Hoxby, C. M., and S. Murarka. (2007) "Charter Schools in New York City: Who Enrolls and How They Affect Their Students' Achieve- ments." National Bureau of Economic Research, Cambridge, MA.

Hoxby, C., and J. E. Rockoff. (2004) "The Impact of Charter Schools on Student Achievement." Taubman Center for State and Local Govern- ment, Kennedy School of Government, Cambridge, MA

Hsieh, C. & Urquiola, M. (2006) The effects of generalized school choice on achievement and stratification: Evidence from Chile's school voucher program. The Journal of Public Economics, 90, 1477–1503.

Kang, C. (2007) "Classroom Peer Effects and Academic Achievement: Quasi-Randomized Evidence from South Korea." Journal of Urban Economics 61(3): 458–495.

Kim, J., H. Alderman, and P. F. Orazem. 1999. "Can Private School Subsidies Increase Enrollment for the Poor? The Quetta Urban Fellowship Program." World Bank Economic Review 13(3): 443–465.

Lara B., Mizala A. & Repetto A. (2009) The effectiveness of private voucher education: evidence from structural school switches, University of Chile.

La Roque, N. & Lee, S. (2010) Non-State Providers and Public-Private Partnerships in Education for the Poor, Asian Development Bank & UNICEF.

Luis, B., Rothstein, R. & Carnoy, M. (2003) All Else Equal: Are Public and Private Schools Different? Routledge Falmer ed.

Malik, A. (2010) Public-private partnerships in Education: Lessons Learned from Punjab Education Foundation, Asian Development Bank.

Malik R., Bari, F., Muzaffar, I., Mashhood T., Mansoor M. & Ali A. (2015) Partnerships for management in education: evidence from Punjab and Sindh, Institute of Development and Economic Alternatives.

McEwan, P. (2001) "The Effectiveness of Public, Catholic, and Non-Religious Private Schools in Chile's Voucher System." Education Economics 9(2): 103–128

Mizala, A. & Torche, F. (2012) Bringing the schools back in: the stratification of educational achievement in the Chilean voucher system. International Journal of Educational Development, 32, 132–144.

Muralidharan, K. & Sundararaman, V. (2015) The aggregate effect of school choice: evidence from a two stage experiment in India. Quarterly Journal of Economics, 130 (3), 1011–1066.

Osorio, J. & Wodon, Q. (2014) Faith-based schools in Latin America: Case studies on Fe Y

Alegria, World Bank, Washington DC

Sandström, F. M., and F. Bergström. 2004. “School Vouchers In Practice: CompetitionWill Not Hurt You.” Journal of Public Economics 89(2–3): 351–380

Sapelli, C., and B. Vial. 2004. “Peer Effects and Relative Performance of Voucher Schools in Chile.” Paper presented at the American Economic Association meetings, San Diego, CA, January 3.

Shakeel, D., Anderson, K. & Wolf P. (2016) The Participant Effects of Private School Vouchers Across the Globe: A Meta-Analytic and Systematic Review, University of Arkansas, EDRE Working Paper 2016–07.

Termes, A., Bonal, X., Zancajo, A. & Verger A. (2015) Public-Private partnerships in Colombian Education: The Equity and Quality Implications of Colegios en concesion. Privatisation in Education Research Initiative (PERI) Paper No 66.

Uribe, C., R. Murnane, J. B. Willett, and M. Somers. 2006. “Expanding School Enrollment by Sub- sidizing Private Schools: Lessons from Bogotá.” Comparative Education Review 50(2): 241–277.

Wodon, Q. & Ying, Y. (2009) Literacy and Numeracy in Faith-Based and Government Schools in Sierra Leone. In Barrera-Osorio, F. Patrinos, H.A. & Wodon, Q. Emerging Evidence on Vouchers and Faith-Based Providers in Education, The International Bank for Reconstruction and Development / The World Bank, Washington DC.

World Bank (2011) Philippines: Private Provision, Public Purpose: A Review of the Government’s Education Service Contracting Program, World Bank, Washington DC.

Annex A Clarifications of ToR

We understand the purpose of the study is to provide UNICEF Serbia and their partners with:

i. An understanding of the international and regional context for PPPs for the provision of preschool education;

ii. An analysis of the current state of such arrangements in Serbia; and

iii. An assessment of what PPP models may be feasible for delivery in this context to meet the objective of increasing access to preschool, particularly for the Roma and families from the poorest economic quintiles, in both urban and rural areas.

This assignment will entail summarising the existing literature on PPPs in preschool, particularly at the level of meta-analyses and literature reviews. We will also develop case studies on promising initiatives in Serbia, and review the existing policy, regulatory, and institutional environment. On the basis of this evidence, we will develop and assess the feasibility of models that may be suitable for delivery in Serbia – which will entail "economic, institutional, technical, and financing analyses". The focus of our attention will be on governance, financing modalities, quality assurance, risks, and potential adverse unintended outcomes.

A.1 Activities from ToR

The ToR request following activities in Table 28. For convenience, we have underlined the terms that clarified in Section 2.2.

Table 53: Assignment activities extracted from the ToR

1. Situation analysis
i. Undertake a review to identify the extent to which PPP arrangements exist, singling out - a. Any critical success factors in their implementation; b. The extent to which the legislation, regulatory framework, and institutional mechanisms recognise and facilitate such arrangements; and c. An analysis of potential barriers, constraints, and shortcoming.
ii. Review the relevant policy/legislation for PPP in general and preschool education, as well as for recommendations for the regulatory framework and institutional mechanisms required for effective implementation of preschool services;
iii. Undertake a review of existing PPP arrangements and of the different modalities and foci of PPP (i.e. what service the PPP is providing) with a specific focus on: a. Selection process for private school operators; b. Duration of contract; c. Termination process;

d. Governance and management;
e. Teacher recruitment;
f. Training and employment terms;
g. Funding arrangement;
h. Profit;
i. Curriculum flexibility;
j. Quality targets;
k. Target beneficiaries;
l. Accountability system;
m. Measurement and quality assurance; and
n. Premises (land, buildings, utilities and maintenance).

iv. Analysis of gaps in existing preschool education services and determination of the existing shortcomings related to:
a. Availability;
b. Access;
c. Affordability; and
d. Quality.

v. Review of compliance with standards of existing preschool educational institutions, both public and private, and enforcement to comply with standards and its overall outcomes;

vi. Assessment of occupancy rates of preschool institutions both in public and private, further disaggregated if data is available by rural and urban, and enrolment of children from most vulnerable groups;

vii. Review of the equity and inclusion dimension of existing forms of PPP in preschool.

2. Analysis of demand

- Assessment of long-term demand for preschool institutions' services under different scenarios (considering the gap analysis and competitive ability, and equity dimension, i.e. income categories, geography, minority population).

3. Technical analysis

i. Definition of functional requirements for preschool institutions;

ii. Preparation of cost estimates (considering life-cycle cost optimization and the economic life of preschool institutions' facilities).

4. Financial analysis

i. Review of the financing and cost-effectiveness, with projection of sustainability and comparison with public provision;

ii. Analysis of financial viability;

iii. Definition of an equitable financing scheme;

iv. Risk analysis and their optimal distribution (risk sharing) between public and private partners;

v. Evaluation of value for money taking into account the best international practice;

vi. Exploration of a business model for PPP, based on the market and situational analysis.

5. Market sounding

i. Private preschool operator landscape and identification of possible service providers;

ii. Consultation of possible service providers to identify constraints, conditions, and market appetite.

6. Conditions to stimulate innovation

i. Recommendation on policies, institutional mechanisms, and regulatory mechanisms required;

ii.	Objectives and conditions for success – i.e. per capita costs, quality assurance, and the capacity required to ensure intended outcomes are achieved.
7. Impact assessment	
i.	Appraisal of potential economic and social impacts, with a focus on equity and inclusion dimensions, including a review of risks and potential unintended outcomes and attendant mitigation strategies.
8. Report	
i.	Synthesis and analysis of the literature, case studies, and above activities with a focus on key elements of PPPs, challenges, recommendations, and lessons learned based on international experiences and efficient and quality PPP models;
ii.	Presentation to key counterparts and inclusion of comments from UNICEF and partners;
iii.	Preparation of policy recommendations for Serbia.

A.2 Clarifications

Building on our Technical Proposal (revised 4th September 2019), we offer a number of clarifications to the underlined terms in above Terms of Reference. These have been agreed during the inception phase of this assignment.

The most pertinent clarifications are that:

- With the exception of Activity 1(iii), all of the above activities will focus on Serbia in particular.
- In Activity 3(ii), 'cost estimates' are understood as referring to the costs to the government, rather than to the private provider. Based on our review of the literature in Section 3, we do not anticipate that 'life cycle optimisation' and the consideration of the 'economic life' of preschool facilities will be necessary for this assignment. This is discussed further below.
- In Activities 4(i) and 4(ii), 'cost effectiveness' is similarly understood to be from the perspective of government, and would specifically consider an estimate of the cost-per-child in terms of government inputs compared to public provision. The 'projection of sustainability' is understood to refer to whether it is plausible that government will be able to maintain the level of funding required for a particular PPP. This will largely be based on 'financial viability', which will also be considered from government's perspective, and would investigate the amount of financing required in relation to current expenditure on education and preschool education.
- In Activity 4(v), an "evaluation of value for money taking into account the best international practice" may refer to one of two approaches. These are either (i) a consideration for how a particular model compares to other models in terms of

approximate costs and effectiveness, or (ii) a 'VFM analysis', which is a quantitative methodology which requires evaluating the full costs of an intervention with reference to the impact of a programme on a standard measure that is comparable across other interventions (such as standardised literacy scores). Since this is a feasibility study, and not an evaluation of a programme, we have understood Activity 4(v) to refer to the former. This will particularly focus on 'value for money' from the governments' perspective.

- In Activity 4(vi), a 'business model' is understood as the manner in which a particular PPP arrangement will operate, such as the methodology for identifying providers, providing funding, and monitoring compliance. As with the above activities, this will focus on the perspective of government.

- The majority of these activities will rely on secondary data that is readily available, such as existing literature, population projections, enrollment statistics, and data on costs, which will provide the basis for original analysis. We anticipated only two activities which will require primary data collection: the consultation of possible service providers (5.ii) and, if sufficient secondary data is unavailable, interviews with actors engaged in PPP initiatives in Serbia (1.i).

Table 29 provides an overviews of the clarifications in full.

Table 54: Clarifications of key terms in ToR

Key terms	Clarification
1. Situation analysis	
vii. Review of the equity and inclusion dimension of existing forms of PPP in pre-school. *The terms in (i) – (vi) do not need clarification.*	• The **'equity and inclusion dimension'** is understood as how accessible existing forms of PPP in Serbia are for poor, Roma, and rural families in particular;
2. Analysis of demand	
i. Assessment of long-term demand for preschool institutions' services under different scenarios (considering the gap analysis and competitive ability, and equity dimension, i.e. income	An **'assessment of long-term demand'** is understood to be a scenario analysis which projects long-term demand for preschool services under different assumptions, rather than the provision of a single and definitive number. **'Gap analysis and competitive ability'** is understood to entail that the above assessment will comment on the capacity of current service provision to meet the projected demand.

categories, geography, minority population).	
3. Technical analysis	
ii. Definition of functional requirements for preschool institutions; iii. Preparation of cost estimates (considering life-cycle cost optimization and the economic life of preschool institutions' facilities).	**'Functional requirements'** are understood as the requirements that preschools in Serbia must meet by law. **'Cost estimates'** are understood as referring to the costs to the government, rather than to the private provider. **'Life cycle optimisation'** is understood to refer to "a method of economic analysing of all costs related to constructing, operating, and maintaining a construction project over a defined period of time" (see Heralova, 2014). However, this will only be relevant if the PPP in question relies substantially on the public financing of construction. Typically, this method requires research into the full list of inputs used, and the provision of multiple quotes for each input. This is a significantly labour-intensive research activity, and it is unlikely to be undertaken unless it becomes essential to the research objectives. • The **'economic life of preschool facilities'** is understood to be "the expected period of time during which an asset remains useful to the average owner". Similar to the above, for the purposes of this study, this consideration would only be relevant in PPPs where the government owned preschool buildings. We expect that this will not be necessary for this assignment.
4. Financial analysis	
i. Review of the financing and cost-effectiveness, with projection of sustainability and comparison with public provision; ii. Analysis of financial viability; iii. Definition of an equitable financing scheme; iv. Risk analysis and their optimal distribution (risk sharing) between public and private partners; v. Evaluation of value for money taking into account the best international practice; vi. Exploration of a business model for PPP,	**'Financing'** refers to the potential funding sources, financing mechanisms, and amounts of funding; **'Cost-effectiveness'** is understood from the perspective of government, which would specifically consider an estimate of the cost-per-child in terms of government inputs compared to public provision; A **'projection of sustainability'** is understood to refer to the consideration of whether it is plausible that government will be able to sustain the level of funding required for a particular PPP. As such, it is closely linked to 'financial viability'. **'Financial viability'** is understood from the governments' perspective, which would consider the amount of financing required in relation to current expenditure on education and preschool education in particular; An **'equitable financing scheme'** is understood as the extent to the particular model incorporates provisions to increase the financing available for vulnerable families; **'Risk analysis'** refers to the identification of potential risks, their impact, and how these might be either avoided or mitigated; An analysis of the **'optimal distribution'** of risk refers to the consideration

based on the market and situational analysis.	of how the risks are shared between government and private providers, and whether in the judgement of the evaluation team there is a notable imbalance. • "Evaluation of **value for money** taking into account the best international practice" may refer to one of two approaches. These are either (i) a consideration for how a particular model compares to other models in terms of approximate costs and effectiveness, or (ii) a 'VFM analysis', which is a quantitative methodology which requires evaluating the full costs of an intervention with reference to the impact of a programme on a standard measure that is comparable across other interventions (such as standardised literacy scores). Since this is a feasibility study, and not an evaluation of a programme, we have understood Activity 4(v) to refer to the former. This will particularly focus on 'value for money' from the governments' perspective. • '**Business model'** is understood to the manner in which a particular PPP arrangement will operate, such as the methodology for identifying providers, providing funding, and monitoring compliance. We will consider this from the perspective of government in particular. • The **'market and situational analysis'** is understood to refer to the current distribution of private and public preschools and their share of the market.
5. Market sounding	
i. Private preschool operator landscape and identification of possible service providers; *Term (ii) does not need clarification*.	• The **'private preschool operator landscape'** is understood to refer to the current distribution of private preschools, as well as the identification of any significant actors (such as preschool franchises).
6. Conditions to stimulate innovation	
ii. Objectives and conditions for success – i.e. per capita costs, quality assurance, and the capacity required to ensure intended outcomes are achieved.	• The **'objectives and conditions for success'** are understood to be the key features of a particular model (such as the per capita costs, quality assurance mechanisms, and capacity) that must be fulfilled in order for that model to achieve its intended impact.

Term (i) does not need clarification.	
7. Impact assessment	
i. Appraise potential economic and social impacts, with a focus on equity and inclusion dimensions, including a review of risks and potential unintended outcomes and attendant mitigation strategies.	• The **'appraisal of potential economic and social impacts'** is understood to refer to a consideration of the likely effect of a particular model on the market. Given the scope of the assignment, this is likely to be based on professional judgement and economic theory, rather than a comprehensive model and analysis.
8. Report	
No clarifications are needed.	

Annex B Country case studies mapped against topics of interest

	Finnish vouchers	Austria subsidy	Slovenia subsidy	Latvia voucher	Norway	Belgrade
Note	*It is the responsibility of the municipality to decide whether to support private preschools do so through a voucher system, or providing a subsidy to private preschools directly.*	*Highly decentralised to a provincial level, and thus considerable various between provinces.*	*There is little information on this as the proportion of private providers in Slovenia is small (24 private providers; 811 787 public)*	*Illegal providers previously identified as a problem, as private providers were too expensive.*	*Preschool is not compulsory, but children are entitled to a place after they turn 1-years old.*	*Due to overcrowded preschool and long waiting lists, in 2015 the City of Belgrade decided to subsidize enrolment in private preschool education through a voucher system.*
Selection process for private school operators	Private providers register with the government.	Private providers register with government.	Two routes - private providers register with government and operate regularly; or, if public provision is not available in an area the government can grant a concession to a private operator	In areas where the local government declares that they cannot meet the demand, government can pay private providers. Private providers sign an agreement with local government.	Municipalities are obliged to give an operating grant to private preschools established before 2011, and can decide whether to support preschools established after this date.	Private providers needed to be certified and register with government.
Duration of contract	*Not specified, but appears to be the responsibility of the*	No contract, but rather a registration process – but no information	*Not specified, but appears to be the responsibility of the*	*Not specified, but appears to be the responsibility of the*	*Not specified.*	No contract, but rather a registration process – but no information provided

	municipality to determine this.	provided about how regularly it needs to be renewed.	*municipality to determine this.*	*municipality to determine this*		about how regularly it needs to be renewed.
Termination process	Municipality can terminate at their discretion if the provider does not meet a satisfactory standard.	Publicly funded private providers are subject to inspections and can have their subsidy revoked	*Not specified, but appears to be the responsibility of the municipality to determine this.*	*Not specified, but appears to be the responsibility of the municipality to determine this.*	Municipality can terminate if conditions are inadequate.	*Not specified.*
Governance and management	Municipality responsible for monitoring contract.	Provinces responsible for enacting relevant legislation, and monitoring preschools	National government sets curriculum and regulation; municipal governments are responsible for implementation.	Local government is responsible for managing the arrangement, via contract.	Approved and supervised by local government.	*Not specified.*
Teacher recruitment	Private provider responsible for recruitment, provided teachers meet qualification standards	Private provider responsible for recruitment, provided teachers meet qualification standards	Private provider responsible for recruitment, provided teachers meet qualification standards	Private provider responsible for recruitment, provided teachers meet qualification standards	Private provider responsible for recruitment, provided teachers meet qualification standards	Private provider responsible for recruitment, provided teachers meet qualification standards
Funding arrangement	The amount of funding is determined by the municipality, although the guidelines are laid down in national legislation	If there is sufficient demand, the provincial government will provide subsidies to private providers. Subsidies will typically be towards the salaries of	Private providers can receive public finance if they meet certain conditions. The amount awarded for each child is the price of the same programme at a public preschool, minus the cost of	Providers had must have a signed contract with each parent to get voucher – and this is reported each month. The amount seems to be set by the government.	Grant based on rate per child, calculated on the basis of average operating cost per child in public kindergartens in the municipality.	City pays 80% of the fixed economic price when the child is present, and 50% when the child is absent. Parent pay the fee at the end of the month and then are reimbursed by the City within a month

		pedagogical and care staff.	parents would have had to pay at the public preschool. Private providers with concessions may also receive funding from the municipality for real estate and equipment.			
Profit	Private providers are allowed to earn a profit.	There is variation between provinces, but "as a rule" for-profit providers do not receive financial support.	*Not specified*	Private institutions are free to set fees.	There is a maximum fee limit that applies to both private and public preschools. Preschools can make a 'reasonable net profit'.	Private provider able to determine the price.
Curriculum flexibility	Use of national curriculum guidelines mandatory.	Educational guidelines are binding across all preschool providers.	Private providers can choose their own curriculum provided it is recognised by an Expert Council. Concession preschools must deliver national curriculum.	All providers must follow national guidelines	All preschools must use the national framework.	Private providers need to submit their curriculum as part of their verification process with government. A new national curriculum framework is gradually being implemented, but this does not yet include private providers.
Quality targets	Governed by statutory law – specifically, must be at least equivalent in quality to municipal services	Providers are required to meet certain standards pertaining to inputs; specifically, the size of the premises, the	All preschools must meet certain requirements concerning educational inputs, such as the number	Qualification requirements regulated by the state	This appears to be at the discretion of the municipality – the national government provides guidance	Private providers are required to provide inputs specified by law, such as size of rooms, adequate equipment of the space,

		available equipment, class sizes, teacher-to-child ratios, and the qualifications of practitioners. The specific requirements are defined by each province.	of children and staff qualifications		(such as on qualifications).	and certain staff qualifications.
Equity and target beneficiaries	Vouchers are income-tested.	All children from the age of 5 must attend a kindergarten free of charge, and this applies to both public and private providers.	Where demand exceeds supply, a special commission prioritises children according to need. Families in the lowest income bracket are fully subsidised. Roma children get paid transport to their nearest preschool. All preschools are required to provide access to all children.	Local government has to offer equal access to preschool for all children between the ages of 1.5 – 5. The voucher is only available for children who are not already enrolled in public preschools.	Disadvantaged children are given priority in admission to both public and private preschools. Low-income parents receive financial support. Poorer municipalities receive comparatively more funding.	In public preschools, priority access is reserved for children from vulnerable groups (i.e. those who are victims of violence, economically disadvantaged children, and children without parental protection). However, this does not apply to private preschools.
Accountability system	Municipality can deregister provider from voucher system if not compliant; parents are not compelled to use any particular school and	Compliance is monitored by the kindergarten inspectorate, who may revoke the subsidy. This is the responsibility of	*Not specified.*	*Not specified.*	Municipality can withhold grants from private providers if conditions are inadequate, or demand repayment of grant.	*Not specified.*

	can move their child elsewhere	provincial governments.				
Measurement and quality assurance	Municipality responsible for monitoring quality	Quality measured through inputs, and monitored through inspection visits.	Municipality responsible for monitoring quality; school inspections.	*Not specified, although local government is responsible for monitoring compliance to the contract.*	Municipality responsible for monitoring quality, with a focus on inputs.	No formal established quality assurance.
Premises (land, buildings, utilities and maintenance)	Private provider responsible for premises.	*Not specified, but ownership and maintenance appear to be the responsibility of the provider.*	Private provider responsible, unless operating with a concession – in which case, they may receive support from municipality.	Private provider responsible for premises.	This is the responsibility of the private provider – the grant is for operating expenses.	Private provider responsible for premises.

Annex C Analysis of regulatory context (Serbian)

ANALIZA PRAVNOG OKVIRA ZA REALIZACIJU JAVNO-PRIVATNOG PARTNERSTVA U PREDŠKOLSKOM VASPITANJU I OBRAZOVANJU SA POSEBNIM OSVRTOM NA PITANJA UGOVORNOG ODNOSA, PRUŽANJA USLUGA I DOSTUPNOSTI SVIH OBLIKA PREŠKOLSKOG VASPITANJA I OBRAZOVANJA

Attached separately.

Annex D Statistical analysis – methodological notes

Explanations on the calculation of indicators

Share of children enrolled over the norm - This share is calculated by subtracting from the total number of pupils the number of children who are enrolled above the legal norm (number reported by preschools), and this number is used as the base number. We then divide the number of children enrolled above the norm with the base number calculated in the first step.

Share of children on waiting list - We divide the total number of children enrolled by the number of children on the waiting list (reported by preschool).

Occupancy rate (only public without compulsory preschool) - For each preschool facility we multiply the number of groups by the maximum number of children per group, in this way we calculate the capacity. For each preschool, we subtract the maximum capacity from the number of enrolled children and in the next step, we calculate the sum of all positive numbers for all preschool. In this way we calculate the available slots. We add the number of available slots to the number of enrolled children to calculate the base number. Finally, the occupancy rate is calculated by dividing the number of enrolled children with the previously calculated base number.

Regulation on the Establishment of a Uniform List of Development of the Region and Local Self-Government Unit for 2014

This regulation establishes a single list of region development, which are classified into developed and insufficiently developed regions and local self-government units. Municipalities are then classified into 4 groups depending on the level of their development, plus devastated municipalities as the fifth group. The classification of the region is done on the basis of the value of the gross domestic product (GDP) per capita in the region in relation to the national average, for the reference period.

Developed regions are regions that have a GDP above the national average:

1) Belgrade region
2) Region of Vojvodina

Insufficiently developed regions are regions that have a GDP below the national average:

1) Region of Šumadija and Western Serbia
2) Region of Southern and Eastern Serbia

Table 55: Municipalities by Level of Development

Level of Development				
I	II	III	IV	V
Barajevo	Ada	Alibunar	Aleksinac	Babušnica
Bačka Palanka	Aleksandrovac	Bajina Bašta	Blace	Bela Palanka
Beočin	Apatin	Batočina	Brus	Bojnik
Bor	Aranđelovac	Bač	Crna Trava	Bosilegrad
Crveni Krst	Arilje	Bela Crkva	Dimitrovgrad	Bujanovac
Grocka	Bačka Topola	Bogatić	Doljevac	Golubac
Kanjiža	Bački Petrovac	Boljevac	Gadžin Han	Kuršumlija
Kostolac	Bečej	Despotovac	Knjaževac	Lebane
Kragujevac	Gornji Milanovac	Irig	Krupanj	Mali Zvornik
Lajkovac	Inđija	Ivanjica	Kučevo	Medveđa
Lazarevac	Jagodina	Kladovo	Ljig	Merošina
Medijana	Kikinda	Knić	Malo Crniće	Preševo
Mladenovac	Kosjerić	Koceljeva	Mionica	Prijepolje
Niška Banja	Kruševac	Kovačica	Nova Varoš	Surdulica
Novi Beograd	Kula	Kovin	Opovo	Svrljig
Novi Sad	Lapovo	Kraljevo	Petrovac na Mlavi	Trgovište
Obrenovac	Majdanpek	Leskovac	Priboj	Tutin
Palilula (Beograd)	Novi Kneževac	Ljubovija	Raška	Vladičin Han
Palilula (Niš)	Pirot	Loznica	Ražanj	Žitorađa
Pantelej	Požega	Lučani	Rekovac	
Pančevo	Rača	Mali Iđoš	Sjenica	
Pećinci	Ruma	Negotin	Varvarin	
Rakovica	Smederevo	Nova Crnja	Vlasotince	
Savski venac	Sombor	Novi Bečej	Žabari	
Senta	Sremska Mitrovica	Novi Pazar	Žagubica	
Sevojno	Sremski Karlovci	Odžaci		
Sopot	Temerin	Osečina		
Stara Pazova	Topola	Paraćin		
Stari grad	Vranje	Plandište		
Subotica	Vrnjačka Banja	Prokuplje		
Surčin	Zaječar	Sečanj		
Valjevo	Zrenjanin	Smederevska Palanka		
Voždovac	Čajetina	Sokobanja		
Vračar	Šabac	Srbobran		
Vrbas		Svilajnac		
Vršac		Titel		
Zemun		Trstenik		
Zvezdara		Ub		

Čačak		Velika Plana		
Čukarica		Veliko Gradište		
		Vladimirci		
		Ćićevac		
		Ćuprija		
		Čoka		
		Šid		
		Žabalj		
		Žitište		

Sources: PŠV data and authors' calculations.

Notes: Group 1 municipalities – level of development above the national average; Group 2 municipalities – level of development between 80-100% of the national average; Group 3 municipalities – level of development between 60-80% of the national average; Group 4 municipalities – level of development below 60% of the national average; Group 5 devastated municipalities – level of development below 50% of the national average.

Annex E Projections of demand – methodological notes

Definition on demographic projections

Population projections, at the municipality level, for the period until 2030, have been produced using the analytical method (cohort component method). Analytical method of demographic projections implies that projections are based on assumptions on fertility, mortality and migration trends in each municipality during the projection period. Specifically, hypotheses were made for fertility by age of women, mortality by age and gender, as well as for migration balance and its distribution by age and gender.

The estimated population by age and sex as of January 1, 2020 was used as the base population. All hypotheses were set for each individual year of the projection period.

The projections were made in one scenario – expected (realistic).

Projection variant	Hypothesis		
	Fertility	Mortality	Net migration
Expected (realistic)	Expected	Expected	Expected

The main nature of these population projections is prognostic, not the analytical kind, and the aim was to have most of the adopted hypothesis actually feasible.

Population projections were produced using the analytical tool – software model DemProj Version 5, which is one of the set of models in the frame of Spectrum Policy Modelling System.

Population at the beginning of the projection period

The population projections, calculated for the purpose of this project, relate to the short-term period i.e. January 1, 2020 – January 1, 2030. The estimates of the population at the municipal level (as of January 1, 2020) by age and gender were taken as the initial population. Those are the first results on population estimates, derived by The Statistical Office of the Republic of Serbia (SORS). As it is in practice, the population estimates are calculated for post-census period and the estimate for the beginning of 2020 was based on the results of the Population Census 2011, and data on population natural changes and mechanical movements, during the whole period from 2011 until 2019.

Fertility hypotheses

Fertility trend hypotheses are presented by the level of total fertility rate (TFR) and its distribution by maternal age.

The variant of expected fertility includes the assumption of the variability of fertility levels in each municipality, both total and distributed by age. Defining the hypothesis for the future development of the TFR in each municipality, we started from the time series published by the SORS, beginning from 2002. The basic criterion for projecting the TFR, until the end of the projection period, was as following: according to the analysis of the trend of TFR in the past and also by looking at the same time to the corresponding number of children already born in the previous decade, we made assumptions on TFR values expected to be realized in the next decade (until 2030). In doing so, it was considered that the future number of births should continue in the similar fertility trend as it was until 2019. This was expected due to the fact that the recorded number of live births in Serbia presents complete coverage and comparable in time (full coverage) and that implies that the possibility of exceptional deviations from the average in the future ten years is excluded. The changes in the fertility age model were included in the assumptions, specific to each municipality. A common feature of the changes in almost all municipalities is trend of reducing the share of births of adolescent women and young fertile women (up to the age of 30), and that is, the already existing process due to postponing birth.

Mortality hypotheses

Preparing the population projections for the period 2020-2030, at the municipality level, the hypothesis of expected mortality was adopted.

When making assumptions about the future mortality (the expected mortality), the trend of indicator – life expectancy at birth (e_0) were analysed in the previous observed period of the last ten years, for each municipality. Based on these data, it was assumed that the mortality, by age, will decrease continuously in most municipalities, that is, the life expectancy at birth, for both, male and female population, will increase.

Migration hypotheses

In the process of depopulation, which represents the demographic picture of Serbia for more than half a century, the migration component of population movement is extremely important, especially for the lower territorial levels.

In determining the final estimate of net migration by municipalities, both, internal and international migration of the population of Serbia were considered. It is important to note that

when looking at the municipality as a whole, internal migration statistics (movements from one municipality to another within the state borders) represent also an external migration factor for that municipality.

According to the expected migration scenario, for most of the municipalities with highly negative migration balance noted at the beginning of the projection period, it was assumed that, in the next ten years, the migration balance will gradually decrease. There are two reasons for this prediction: the first is depopulation and population aging, which means that the share of the most active age groups in migration is decreasing, and the second is the expected more balanced development of the country.

Population estimates

According to the request defined in this project, the Excel table with results of population projections should also contain the estimated number of children aged 0-8 years for the previous period 2010-2019. We have prepared data on population estimates for the beginning of the observed year. Those are official population estimates made in SORS for each post-census year, by age and gender, up to the level of municipality (by methodology as explained previously). More precisely, in order to have the data comparability with projected period, which started at the point January 1, 2020 (that is actually the same moment as December 31, 2019), we have prepared the data series 2011-2020 on estimated number of children as stated on 1 January of observed year. That means for example, that the estimates on January 1, 2011 correspond to the population estimates on December 3, 2010. Beside adjustments with the beginning of the projected period, considering the end of the year 2010 enabled the comparability in time, concerning the population census. Otherwise, we would have the break in data series concerning the census population used when the population estimates were calculated.

Assessment of Demand for Preschool Methodological Notes

Based on the SORS population projections in the period 2011 to 2030, we calculate for each municipality both “Average annual population growth rate”, as well as “Average annual (compound) population growth rate”.

“Average annual population growth rate” is calculated as follows:

$$Average\ annual\ growth\ rate\ = \frac{\left(\frac{Value_{2030} - Value_{2011}}{Value_{2011}}\right) \cdot 100}{20}$$

"Average annual (compound) population growth rate" is calculated as follows:

$$Average\ annual\ (compound) population\ growth\ rate = \left(\left(\frac{Value_{2030}}{Value_{2011}}\right)^{\frac{1}{20}} - 1\right) \cdot 100$$

Annex F Case studies – methodological notes

The case studies relied on interviews with preschool providers in each of the municipalities. We intended to interview a representative of the local government in each selected municipality, but we were able to interview only a representative of the local government from Kragujevac. The municipalities were selected by the research team based on suggestions by UNICEF. The case studies were augmented and validated by a desk review, which included legal documents, documentation provided by the representative of LSG in Kragujevac and statistical data from the Statistical Office of the Republic of Serbia for the years 2015 to 2018.

In Belgrade, we interviewed 2 preschools. These preschools were suggested to the research team by UNICEF. In total, 3 preschools were invited to participate and 2 agreed. We invited representatives of the LSG to participate in the study.

In Kragujevac, we interviewed 1 preschool. These preschools were suggested to the research team by UNICEF. In total, 2 preschools were invited to participate and 1 agreed. We were also able to interview the deputy chief of city administration for social activities and citizens' affairs in the LSG.

In Niš, we interviewed 2 preschools. These preschools were suggested to the research team by UNICEF. In total, 3 preschools were invited to participate and 2 agreed. We invited representatives of the LSG to participate in the study.

The interviews were conducted by Lara Lebedinski, using the interview schedules below. Prior to each interview, Lara explained the purpose of the study, the use of data, and procedures for consent. All participants were provided with an introductory letter and information sheet in Serbian. Lara took notes after each interview, which were used to compile a preliminary report which formed the basis of Section 6.

Interview schedule for LSG

1) Could you please give an overview of the nature and purpose of cooperation with private preschool providers in your LSG?
   a) Probe – please explain the context of the partnership. What lead to it?
      i) Probe – what problem was in responding to?

2) How are private providers selected?
   a) Are there any private providers who may be excluded, and if so, why? (Probe, if any example is needed – what about for-profit providers?)

3) What are the details of the agreement between the government and the private provider (either directly, or through parents – adjust depending on answer to Q1)?
   a) If it is a contract, who is it between and how is it formulated?
   b) If it is a registration process, what does this entail?
   c) What is the duration of the agreement, and how may it be terminated?

4) What is the funding arrangement, either financial or in-kind, in the partnership with a private provider (either directly, or through parents)?
   a) What is the amount of funding, and how is this determined?
   b) If applicable, what percentage of the service price does the funding cover?
   c) How are the funds transferred to the private provider (either directly or through other means such as through the reimbursement of families)?
   d) Is there a restriction on how these funds might be used?

5) What are regulations or standards that private providers required to meet?

6) How do you monitor compliance and quality assurance?
   a) Who is in charge for monitoring different standards (such as structural and pedagogical)?

7) Who is responsible for teacher recruitment and management, and are there any requirements or conditions for who might be employed (such as teacher qualifications) in private preschool institutions?

8) What curriculum may private providers use?

9) Can you give a brief overview of how the prescriptions and regulations (including curriculum, monitoring, and funding) for private preschools differs from public preschools?
   a) Probe – are there standards that apply to public but not to private, and vice versa? Are these inspected or enforced in different ways?
   b) Probe – is there a difference between how these standards ‘should’ work, and how they work in practice? How should they work? How do they work in practice?
   c) What is the rationale for difference treatment of public and private preschools? How does it ‘work’ in practice?

10) In your estimation, on a scale of 1 – 10, how successful do you think this partnership has been?
   a) Why do you pick that number?
   b) Why not one point higher?
   c) Why not one point lower?
   d) What have been the key challenges for this project?
   e) What have been the key success factors for the project? (reverse order with (d) as appropriate)
   f) How could this partnership be improved?

11) Who do you hope will benefit from this public-private partnership? In what way will they benefit?

a) Probe – what measures are in place to facilitate this?
b) Probe – are there any measures in place for Roma?
c) Probe – are there any measures in place for low-income families?
d) Probe – are there any measures in place for rural families?
e) Probe – are there any measures in place for children with disabilities?
f) Probe – are there any laws of regulations related to the enrollment of Roma/children from low-income families/children from rural families? What are they? How do they apply?

12) Are there any documents you can share relating to the PPP?

Interview schedule for private preschool provider

1) Could you please give an overview of your cooperation with the LSG?

2) What lead you to enter into the partnership?
   a) Probe – were you operating as a preschool before the partnership was available? If so, what did the partnership enable?

3) How were you selected?
   a) What criteria did you have to meet?
   b) Was there a registration process, and if so, what did it entail?

4) How does the agreement work?
   a) Is there a contract? If so, who prepared it?
   b) What is the duration of the agreement, and how may it be terminated?

5) What is the funding arrangement, either financial or in-kind, in each public-private partnership?
   a) What is the amount of funding, and how is this determined?
   b) If applicable, what percentage of the service price does the funding cover?
   c) Do you offer any programmes that are not covered by this funding, which parents pay for separately?
   d) How are the funds transferred to the private provider (either directly or through other means such as through the reimbursement of families)?
   e) Is there a restriction on how these funds might be used?

6) What regulations or standards are private providers required to meet?

7) Who is responsible for teacher recruitment and management, and are there any conditions for this?

8) What curriculum may private providers use?

9) How is compliance and quality assurance monitored? Who is in charge for monitoring different standards (such as relating to the building, or to pedagogy)?

10) In your estimation, on a scale of 1 – 10, how successful do you think this partnership has been?
   a) Why do you pick that number?
   b) Why not one point higher?
   c) Why not one point lower?

d) What have been the key challenges?
e) What have been the key success factors? (reverse order with (d) as appropriate)
f) How could this partnership be improved?

11) Who do you hope will benefit from this public-private partnership? In what way will they benefit?
    a) Probe – what measures are in place to facilitate this? Who decides this?

12) What proportion of the children do you think are (i) Roma, (ii) low-income, (iii) rural, or (iv) with disabilities?
    a) Do you have any documents you can share with me about this?
    b) Why do you think there are not more?
    c) Why do you think there are not fewer?
    d) Are there any special provisions are made for accepting or supporting these children? Is this documented in any way?
    e) Is there any legislation that is relevant for this? What is it, and how does it apply?

13) Are there any documents you can share relating to the PPP?

Interview schedule for parent representative

1) Do you have any formal position at the preschool (probe, if necessary – such as serving on a parents' representative board?)? If so, how does this position work?

2) How does the school engage with parents?

3) How does the preschool select children? What process is followed?

4) What are the fees at the preschool?
    a) How are the fees paid?
    b) If there is any process of reclaiming funding back from the state, how does this work?

5) What if a parent is unable to pay the fees?
    a) …before enrolling in the school?
    b) …after they have already enrolled their child in the school?

6) Why did you select this school?
    a) If you had not selected this school, what would you have done? Why did you choose this school instead?

b) Why did you chose a private preschool instead of a public preschool?

7) What proportion of the children do you think are (i) Roma, (ii) low-income, (iii) rural, (iv) disability?
   a) Why do you think there are not more?
   b) Why do you think there are not fewer?
   c) Do you know if any special provisions are made for accepting or supporting these students?

Annex G Implications for regulatory reform (Serbian)

MODELI JAVNO-PRIVATNOG PARTNERSTVA – NEOPHODNE IZMENE U PROPISIMA ZA SPROVOĐENJE MODELA

Model 1: Proširenje postojećeg programa vaučera - na ostale opštine iz prve grupe razvijenosti opština u Srbiji (Bačka Palanka, Beograd, Beočin, Bor, Valjevo, Vrbas, Vršac, Kanjiža, Kragujevac, Lajkovac, Niš, Novi Sad, Pančevo, Pećinci, Požarevac, Senta, Stara Pazova, Subotica, Užice i Čačak)

Pod ovim modelom podrazumeva se isplata vaučera u iznosu do 80% od ekonomske cene programa predškolskog vaspitanja I obrazovanja roditeljima čija deca pohađaju private predškolske ustanove.

Prednosti ovog modela:

- **Jednostavna implementacija**, primer Grada Beograda, nema potrebe za sprovođenjem postupaka za odobravanje javno-privatnog partnerstva I janve nabavke
- **Nije potrebna izmena propisa**

Mane ovog modela:

- **Nije održivo rešenje** – davanje vaučera na ovaj način zasnovano članu 11. stav 4. Zakona o finansijskoj podršci porodici sa decom, kojim je propisano da AP Vojvodina, opština, odnosno grad mogu, ako su obezbedili sredstva, da utvrde i druga prava, veći obim prava od prava utvrđenih ovim zakonom i povoljnije uslove za njihovo ostvarivanje . Dakle, program vaučera nije predstavlja sistemsko rešenje jer je zasnovan na dobrovoljnom pristupu jedinice lokalne samouprave (JLS) I zavisi od raspoloživih sredstava. U tom smislu bi zbog nedostatka raspoloživih sredstava program vaučera mogao da bude otkazan, čime bi se deca I roditelji sa jedne, a private predškolske ustanove sa druge strane našle u problemu kako da nastave za izvođenjem programa. Takođe, s obzirom da JLS samostalno odlučuju o načinu na koji će rsporediti višak dostupnih sredstava ne može se govoriti o održivom rešenju za sve opštine.

Model 2. Proširenje postojećeg programa vaučera uvođenjem novog oblika realizacije delatnosti predškolskog vaspitanja I obrazovanja – osoba koje čuvaju decu (childminder) u svom ili drugom namenskom prostoru koji ispunjava posebne prostorne, tehničke, higijenske I uslove za ishranu dece.

Potrebne izmene u propisima za sprovođenje ovog modela:

1. **Zakon o osnovama Sistema obrazovanja i vaspitanja,**

- u članu 13. koji govori o tome ko može da obavlja delatnost obrazovanja I vaspitanja, tako da i osobe koje čuvaju decu (childminders) pored ustanova budu prepoznate,

- u članu 49. kojim je uređeno spoljašnje vrednovanje I samovrednovanje ustanova, kako bi se prepoznale I osobe koje čuvaju decu (childminders),
- u delu u kojem je propisano osnivanje I verifikacija ustanova (čl. 89-113) treba dodati poseban član koji uređuje način rada I verifikaciju osoba koje čuvaju decu (childminders),
- u članu 135. treba dodati da vaspitno-obrazovni rad sa decom obavljaju I osobe koje čuvaju decu (childminders),
- u članu 137. treba dodati zadatke osobe koje čuvaju decu (childminders),
- u članu 140 su propisani uslovi u pogledu obrazovanja vaspitača, treba propisati posebne uslove za osobe koje čuvaju decu (childminders),
- u članu 144. treba propisati da li osobe koje čuvaju decu (childminders) treba da steknu licencu ili ne,
- u članu 151. treba propisati da li osobe koje čuvaju decu (childminders)imaju obavezu stručnog usavršavanja kao vaspitači,
- u članu 169. I 170 koji se odnose na stručno-pedagoški I inspekcijski nadzor, treba dopuniti kako bi se primenjivao i na osobe koje čuvaju decu (childminders),
- u delu koji se odnosi na Jedinstveno informacioni system prosvete čl. 175 184, treba propisati evideniciju koja se vodi o osobama koje čuvaju decu (childminders), kao I da li se one nalaze u posebnom registru ili u registru zaposleni u ustanovama,
- u članu 189. koji se odnosi na sredstva koja se obezbeđuju u budžetu JLS, tako što će se predvideti finansiranje osoba koje čuvaju decu (childminders) iz budžeta JLS

2. Zakon o predškolskom vaspitanju I obrazovanju

- u članu 2. koji uređuje delatnost predškolskog vaspitanja I obrazovanja treba dodati osobe koje čuvaju decu (childminders)
- u čl.6-7a koji se odnose na evidenciju treba propisati koju evidenciju vode dodati osobe koje čuvaju decu (childminders),
- u glavi II.Osnivanje predškolske ustanove treba dodati član koji uređuje osobe koje čuvaju decu (childminders), način upisa dece,
- u glavi III. Program predškolskog vaspitanja i obrazovanja treba urediti posebnosti koje se odnose na realizaciju predškolskog programa kod osobe koje čuvaju decu (childminders),
- u glavi IV. Organizacija rada sa decom, potrebno je propisati poseban način organizacije rada se decom kod osobe koje čuvaju decu (childminders),
- u glavi V. koja se odnosi na Vaspitače, potrebno je propisati zadatke I potrebno obrazovanje za osobe koje čuvaju decu (childminders),
- u glavi VIII. Finansiranje, potrebno je propisati način finansiranja osobe koje čuvaju decu (childminders),

3. U **Pravilniku o merilima za utvrđivanje ekonomske cene programa vaspitanja i obrazovanja u predškolskim ustanovama**, potrebno je propisati posebne odredbe koje se odnose na utvrđivanje cene usluga osobe koje čuvaju decu (childminders)

4. U **Pravilniku o Pravilnik o bližim uslovima za osnivanje, početak rada i obavljanje delatnosti predškolske ustanove** treba propisati posebne uslove u pogledu prostora, opreme I didaktičkih sredstava (veličina prostorije prema broju dece, dvorište, higijenski I tehnički uslovi…) koji će se odnositi na osobe koje čuvaju decu (childminders)

5. U Pravilniku o osnovama predškolskog programa potrebno je propisati način prilagođavanja programa za decu koja ostvaruju predškolski program kod osoba koje čuvaju decu (childminder)

6. U Pravilnik o o bližim uslovima i načinu ostvarivanja ishrane dece u predškolskoj ustanovi potrebno je dodati posebne odredbe koje bi se primenjivale na osoba koje čuvaju decu (childminder)

7. U Pravilniku o bližim uslovima i načinu ostvarivanja socijalne zaštite dece u predškolskoj ustanovi potrebno je dodati odredbe o načinu na koji bi se odvijala socijalna zaštita dece kod osoba koje čuvaju decu (childminder)

8. U Pravilniku o bližim uslovima i načinu ostvarivanja nege i preventivno-zdravstvene zaštite dece u predškolskoj ustanovi potrebno je da se dodaju odredbe o načinu na koji bi se ostvarivala nega I preventivno-zdravstvena zaštita kod osoba koje čuvaju decu (childminder)

Model 3. Subvencije za zaposlene u privatnim predškolskim ustanovama . JLS može da zaključi takav ugovor o javno-privatnom partnerstvu da deo njene obaveze bude finansiranje zarade i naknada zarade za zaposlene u privatnoj predškolskoj ustanovi

Potrebne izmene u propisima za sprovođenje ovog modela:

1. **Zakon o osnovama sistema obrazovanja I vaspitanja**

- u članu 189. koji se odnosi na sredstva koja se obezbeđuju u budžetu JLS, tako što će se predvideti mogućnost finansiranje plata I naknada za zaposlene u privatnim predškolskim ustanovama iz budžeta JLS, a može I da se doda novi član koji bi uredio obim I način učešća JLS u javno-privatnom partnerstvu sa privatnom predškolskom ustanovom

2. U **Pravilniku o merilima za utvrđivanje ekonomske cene programa vaspitanja i obrazovanja u predškolskim ustanovama**, potrebno je propisati ili posebne odredbe koje se odnose na utvrđivanje plata zaposlenih u privatnim predškolskim ustnovama ili da se odredbe koje se odnose na zaposlene u javnim predškolskim ustanovama shodno primenjuju I na privatne predškolske ustanove.

3. U **Pravilniku o Pravilnik o bližim uslovima za osnivanje, početak rada i obavljanje delatnosti predškolske ustanove** potrebno je propisati ili posebne odredbe koje se odnose na utvrđivanje broja zaposlenih u privatnim predškolskim ustnovama ili da se odredbe koje se odnose na javne predškolske ustanove shodno primenjuju I na privatne predškolske ustanove

Model 4. Javno-privatno partnerstvo – koncesija za privatne predškolske ustanove u obliku finansiranja određenog broja mesta u predškolskim ustanovama . JLS može da zaključi takav ugovor o javno-privatnom partnerstvu, sa ili bez elemenata koncesije, da deo njene obaveze bude finansiranje određenog broja mesta u predškolskoj ustanovi bez obzira na broj dece koji se upiše u tu ustanovu, na određeni period

Potrebne izmene u propisima za sprovođenje ovog modela:

1. Zakon o osnovama sistema obrazovanja I vaspitanja

- **glavi XI Finansiranje**, potrebno je dodati novi član koji bu uredio mogućnost da JLS zaključi ugovor o javno-privatnom partnerstvu kojim bi se finansirao određeni broj mesta u privatnoj predškolskoj ustanovi ,

2. U Pravilniku o merilima za utvrđivanje ekonomske cene programa vaspitanja i obrazovanja u predškolskim ustanovama, potrebno je propisati ili posebne odredbe koje

se odnose na utvrđivanje ekonomske cene programa u privatnim predškolskim ustnovama koje su zaključile ugovoro javno-privatnom partnerstvu sa JLS. Cilj ove izmene je da se cena utvrđuje na isti način kao I u javnim predškolskim ustanovama.

Model 5. Javno-privatno partnerstvo – koncesija za privatne predškolske ustanove u obliku dodele prostorija u javnoj svojini. JLS može da zaključi takav ugovor o javno-privatnom partnerstvu, sa ili bez elemenata koncesije, da deo njene obaveze bude davanje na korišćenje neiskorišćenih prostorija u javnoj svojini ili izgradnja prefabrikovanih učionica - odgovarajućih prostorija I njihovo davanje na korišćenje.

Potrebne izmene u propisima za sprovođenje ovog modela:

1. Zakon o osnovama sistema obrazovanja I vaspitanja

- **glavi XI Finansiranje**, potrebno je dodati novi član koji bu uredio mogućnost da JLS zaključi ugovor o javno-privatnom partnerstvu kojim bi se za potrebe prostora privatne predškolske ustanove dodelila na korišćenje imovina u javnoj svojini ,

2. U Pravilniku o merilima za utvrđivanje ekonomske cene programa vaspitanja i obrazovanja u predškolskim ustanovama, potrebno je propisati ili posebne odredbe koje se odnose na utvrđivanje ekonomske cene programa u privatnim predškolskim ustnovama koje su zaključile ugovoro javno-privatnom partnerstvu sa JLS. Cilj ove izmene je da se cena utvrđuje na isti način kao I u javnim predškolskim ustanovama.

3. U Pravilniku o Pravilnik o bližim uslovima za osnivanje, početak rada i obavljanje delatnosti predškolske ustanove potrebno je propisati posebne odredbe koje bi omogućile da se prostor koji JLS dodeli privatnoj predškolskoj ustanovi koristi za delatnost predškolskog vaspitanja I obrazovanja, odnosno da postoje posebni uslovi za ovakav tip objekata, ukoliko je potrebno da se on razlikuje od postojećih uslova.

Annex H Market sounding – methodological notes

We aimed to interview private preschool providers from 4 categories.

- Private preschools in G1 municipalities with multiple branches (4 respondents);
- Private preschools in G1 municipalities without the voucher programme (3 respondents);
- Private preschools in G2 municipalities (4 respondents);
- LSGs without the voucher system in G1 and G2 municipalities (4 respondents).

We sought to gather basic data on preschool characteristics for all respondents, understand how their work had been affected by COVID-19, and their experiences in engaging with LSGs. In particular, we sought feedback on the voucher (Model 1A), operational subsidy in less developed municipalities (Model 2A*), and the small concession (Model 3C) models. The interview schedules for each group is described below.

Due to limited time for each interview, we did not seek feedback on the following models –

- The voucher for childminders (Model 1B), as private preschools would not be the relevant target market for this variation;
- The subsidy per child (Models 2B and 2B*), although we received feedback on this variation as part of the discussion of the voucher system;
- The large concession (Model 3A) or the operational subsidy open to all municipalities (Model 2A), as these had been rejected in the initial analysis stage of the assignment;
- Although we initially elicited feedback on a medium concession such as through preferential access to facilities (Model 3B), this was dropped after pilot interviews as respondents reported that the model was redundant as almost all preschools owned their own facilities.

All interviews were conducted in Serbian telephonically. Notes were taken during the interview by the researcher, summarised, and then translated into English for analysis.

In order to sample preschools with multiple branches, we approached preschools in the descending order of the number of branches until we had completed 4 interviews. We aimed to approach all 8 private preschools in the PŠV database in G2-5 municipalities, however, one had subsequently closed and the other had no contact information available online. Of

the remaining 6, only 3 agreed to be interviewed. UNICEF sampled the respondents in G1 municipalities without the voucher system.

In total, 7 interviews were conducted by OPM and 8 interviews were conducted by UNICEF. OPM had invited a further 5 preschools to participate in interviews, but these declined due to competing commitments. Unfortunately, we were only able to locate the conduct details of private preschools in G1 and G2 municipalities.

G.1. Interview Schedule – Private Provider in Group 1 with multiple branches

Note – it is important that we speak to the owner, founder, or most senior manager of the preschool chain (i.e. not the principal of an individual branch).

Background

1. What is your position in the preschool?
    a. Very briefly, how long have you been in this position, and how long have you worked for this preschool?
2. How many branches (or 'branches') are part of your preschool?
    a. When was each facility opened?
3. How many teachers do you employ in total?
4. How many children are enrolled in total?

Municipalities

5. Which municipalities are your preschools in?
    a. *If they are all in the same municipality, ask* – why are the all in the same municipality?
    b. *If they are in different municipalities, ask* – has it been easy to manage branches in different municipalities?
        i. What has been difficult?
6. Have you considered opening up a branch in a less developed municipality?
    a. Why, or why not?
    b. What would the challenges of this be?
    c. What would you be most worried about, if you were to try this?

Model assumptions

For the purposes of our study, we are researching how people would respond to the following models –

7. In the first model, the government would subsidise 50% of the salary expenses for preschools in less developed municipalities;
    a. Do you think you would open up a new branch in a less developed municipality as a result?
        i. Why, or why not?
        ii. What difference would it make if only 25% was subsidised?
        iii. What about 75%?
        iv. Or 100%?
    b. Do you think this would make any difference to the fees that you charge?
        i. Why or why not?
    c. What do you think would be the challenges of this model for preschools?
    d. What do you think would be the challenges of this model for government?
8. In the second model, the government would promise to pay for a certain number of places at new preschools in less developed municipalities, at 80% of the cost of those places if those places are not filled. If those places are filled, then the government would not pay for them. The number of places will be determined by what is needed for a preschool to break-even.
    a. Do you think you would open up a new branch in a less developed municipality as a result?
        i. Why, or why not?
    b. Would it make a different to your answers if the government covered only 50% of the cost?
        i. Or 100%?
    c. Do you think this would make any difference to the fees that you charge?
        i. Why or why not?
9. In the third model, parent who cannot access public preschool will receive a voucher to attend a private preschool. The private preschool would be responsible for signing a contract with the parent and reporting this to the municipality. The voucher would be for about RSD 620 for each day that the child attends pre-school, and RSD 390 for each day the child is absent. The private preschool would be responsible for reporting the monthly attendance rate to the municipality, and would then receive the subsidy directly from the municipality 30 days later.
    a. What are your first impressions of this model?
    b. What impact do you foresee that this model would have on your preschool?
        i. What benefits do you foresee for your preschool with this model?
        ii. What challenges do you foresee for your preschool with this model?

Local Self Government

10. Have you had any interactions with the Local Self-Government? What for?
    a. How have you found these interactions?

COVID-19

11. How has COVID-19 affected your preschool?
    a. What will this mean for your financial viability?

G.2. Interview Schedule – Private Provider in Group 1 in municipalities without the voucher programme

It is important to speak to the principals, or otherwise business owners, of the preschool.

Pre-school and characteristics of children

Very briefly -

1. What is your position at the preschool?
2. How many children are currently enrolled in your preschool?
3. How many groups of children do you have in your preschool?
4. How many more children would you be able to enrol, if there was more demand?
5. How many teachers are current employed in your preschool?
6. What are your current fees? Do you set these fees, or are they set by an association?
7. How many children from low-income families are enrolled in your preschool?
8. How many children from Roma families are enrolled in your preschool?
9. How many children with disabilities are enrolled in your preschool?

Increasing enrollment

10. Do you want to enrol more children into your preschool?
    a. *If 'no'*, why not?
11. What are the obstacles to enrolling more children in your preschool?
    a. Of the obstacles you have listed, can you put them in order of priority/severity?

Model assumptions

For the purposes of our study, we are researching how private preschool would respond to the following model.

- Parents from children between the ages of 3 – 5.5, from whom there is not enough space in public preschools, will receive a voucher to attend a private preschool.
- The private preschool would be responsible for signing a contract with the parent and reporting this to the municipality.
- The voucher would be for about RSD 620 for each day that the child attends pre-school, and RSD 390 for each day the child is absent.
- The private preschool would be responsible for reporting the monthly attendance rate to the municipality, and would then receive the subsidy directly from the municipality 30 days later.

12. What are your first impressions of this model?
13. What impact do you foresee that this model would have on your preschool?
    a. What benefits do you foresee for your preschool with this model?
    b. What challenges do you foresee for your preschool with this model?

In a different variation of the model, the value of the voucher would be higher for families with low-incomes or children with disabilities. The voucher would at least cover the full fees for the child, but possible a little bit more too. However, in this variation you would not be able to charge the families of children using this voucher any additional fees.

14. What would the impact of this model be on your preschool?
    a. Do you think more children from families with low-incomes and/or more children with disabilities would enrol in your preschool? Why or why not?
15. What do you think the value for the voucher should be for -
    a. …low-income families?
    b. …children with disabilities?
    c. *If the answers to (a) and (b) are higher than the fees currently charged by the preschool, ask:* Why have you set this higher than your current fees?

COVID-19

16. How has COVID-19 affected your preschool?
    a. What will this mean for your financial viability?

G.3 Interview Schedule – Private Provider in Group 2-5

Note – it is important that we speak to the owner/founder of the preschool.

Background

1. What is your position in the preschool?
    a. Very briefly, how long have you been in this position, and how long have you worked for this preschool?
2. How old is this preschool?
3. Why did you start this preschool?

Challenges

4. We have noticed that there are very few private preschools in your municipality, and in similar municipalities. Why do you think that is?
5. What are the key challenges you face in running your preschool?
6. What has enabled you to start a preschool, given these conditions?
7. Have you thought about opening a new branch?
    a. Why, or why not?

Business model

8. How many children are currently enrolled in your preschool?
    a. What is the lowest number of children that could be enrolled, at which your preschool would still remain financially viable?
9. How many children do you have capacity to enrol at your preschool, if you had full enrollment;
    a. *If the number of children enrolled is greater than 95% of the capacity*, *ask* – why not expand your capacity? What are the challenges with this?
    b. *If the number of children enrolled is less than 95% of the capacity*, *ask* – why do you think you are not at full capacity? What are the challenges with this?
10. Do you have any vacancies for teaching staff?
    a. Are you satisfied with the quality of the applicants?
11. What proportion of the preschool's expenses goes towards salaries?
12. Do you own the building?
    a. If not, what proportion of the preschool's income goes towards rent?

Model assumptions

For the purposes of our study, we are researching how people would respond to the following models –

13. In the first model, the government would subsidise 50% of the salary expenses for preschools in your municipality;
    a. What difference would this make to your preschool? What would you do differently?
        i. *If they say 'enrol more children', 'open new classrooms', or 'employ more teachers'*, *ask* – how many more? And how many more children will you be able to enrol?
        ii. What about if only 25% of the salaries were subsidised?
        iii. Or 75%?
        iv. Or 100%?
    b. At 50%, do you think you would open up a new branch as a result? Why, or why not?
    c. Do you think this would make any difference to the fees that you charge?
        i. Why or why not?
    d. Do you think other preschools would open as a result of this model? Why?
14. In the second model, the government would promise to pay for X places at your preschool, at 80% of the cost of those places, if those places are not filled. If those places are filled, then the government would not pay for them.
    a. Do you think other preschools would open as a result of this model?
        i. Why?
    b. Do you think you would open up a new branch as a result?
        i. Why, or why not?
    c. Would it make a difference to either of these answers if the government covered only 50% of the cost?
        i. Or 100%?
    d. Do you think this would make any difference to the fees that you charge?
        i. Why or why not?
15. In the third model, parent who cannot access public preschool will receive a voucher to attend a private preschool. The private preschool would be responsible for signing a contract with the parent and reporting this to the municipality. The voucher would be for about RSD 620 for each day that the child attends pre-school, and RSD 390 for each day the child is absent. The private preschool would be responsible for reporting the monthly attendance rate to the municipality, and would then receive the subsidy directly from the municipality 30 days later.
    a. What are your first impressions of this model?
    b. What impact do you foresee that this model would have on your preschool?
        i. What benefits do you foresee for your preschool with this model?

ii. What challenges do you foresee for your preschool with this model?

Local Self Government

16. Have you had any interactions with the Local Self-Government? What for?
    a. How have you found these interactions?

COVID-19

17. How has COVID-19 affected your preschool?
    a. What will this mean for your financial viability?

G.4 Interview with LSGs in Group 1 municipalities without a voucher system

1. What is your role in the LSG?
   - How does your role relate to preschools?
2. In your estimation –
   - What proportion of preschool providers are private in your municipality?
   - Do you think there are many child care centres who are not registered as preschools in your municipality? If so, how many?
3. What support do you think the private preschool providers in your municipality need?
4. How does the municipality currently engaging with private preschool providers?
   - Do you offer them any financial support? If so, how?
     i. If not, why not?

Questions for LSG that have certain number of vouchers- not for all children:

- How did you define the quota for subsidies?
- What were the criteria?
- How would you assess your practice so far?
- What are the benefits?
- What are the challenges?
- What prevents you to provide subsides for all children?
- What do you that that would be the way to overcome those challenges?

For the purposes of our study, we are interested in your response to two models for supporting private preschools.

The first model is similar to what is currently being delivered in elsewhere in Serbia.

- Parent who cannot access public preschool will receive a voucher to attend a private preschool;
- The private preschool would be responsible for signing a contract with the parent and reporting this to the municipality;
- The voucher would be for about RSD 950 for each day that the child attends pre-school, and RSD 775 for each day the child is absent.

- The private preschool would be responsible for reporting the monthly attendance rate to the municipality, and would then receive the subsidy directly from the municipality 30 days later.

5. What are your first impressions of this model?
6. What impact do you foresee that this model would have in your municipality?
    - What benefits do you foresee?
    - What challenges do you foresee?
7. This model would likely require that the funding for preschools in your municipality is increased. How do you think this increase could be funded?
8. Do you think your municipality could afford this increase?
    - If not, what proportion would needed to be funded by national government?
9. This model will require that your municipality sign contracts with either private providers or parents. How easy or difficult do you think this will be?
    - Why?
    - Do you think it will be easier to sign contracts with private providers or with parents?
10. This model will also require that your municipality receive the attendance data from preschools, and make payments accordingly. How easy or difficult do you think this will be?
    - Why?

In a variation of the model, the municipality would pay preschools a larger voucher for children from low- income, Roma families and/or with disabilities.

11. What are your initial impressions of this?
12. Do you think this would be supported in your LSG?
    i. Why or why not?

In the second model, instead of a voucher system, the municipality would subsidise 50% of the salary expenses for private preschools.

13. What are your first impressions of this model?
14. What impact do you foresee that this model would have in your municipality?
    - What benefits do you foresee?
    - What challenges do you foresee?
15. Do you think your municipality could afford this programme?
    - If not, what proportion would needed to be funded by national government?
16. Would it change your answer if only 25% was subsidised?
    - What about 75%?

Annex I Ethics

A concern for ethics is central to OPM's work, and OPM requires all staff engaged in any aspect of our work to adhere to high ethical standards. In this section, we outline our understanding of the relevant UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis. We also detail the specific considerations relevant to this study. These specifically related to risks to participants, consent and anonymity, anti-bribery and conflicts of interest, gender, stakeholder participation, and institutional ethical reviews.

UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis

The UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis (2015) provides an extremely helpful guide for ensuring ethical research. Only a small proportion of this study is directly applicable to this procedure, since, with the exception of two activities (considered below) the study will involve only secondary data that is anonymised, unharmful, and not subject to 'restricted use' (UNICEF, 2015: 6).

The two activities that involve primary data collection relate to the case studies on existing PPP engagements, and market sounding. However, these activities will pose a negligible ethical risk as they do not (i) entail contact with vulnerable cohorts whose personal agency is limited, (ii) involve data collection that has the potential to result in direct harm, (iii) involve data that may compromise on the privacy of subjects, (iv) entail socially or politically sensitive issues, or (v) involve the non-universal distribution of resources.

Nonetheless, the principles of the UNICEF Procedure – respect, beneficence and non-maleficence, and justice - remain relevant to all studies. Our considerations in this regard are detailed in the following section.

Specific considerations relevant to this study

The following considerations are most pertinent to the primary data collection undertaken through this study.

Risks to participants

The data collected through interviews will be neither controversial nor sensitive. We do not anticipate any risks to participants due to their participation in the study, nor will any participant be prevented from accessing any intervention as a result of their participation in the study.

Consent and anonymity

All participants in this study will be adults engaged in professional occupations, who will not be rewarded for their participation. Notes will be collected from all interviews and focus groups, and these may also be recorded through audio. All participants will be asked for their consent in writing. A consent form has been attached in Annex F.

Anti-bribery and conflicts of interest

We do not anticipate any risk of bribery from participants, as the research team is not involved in any relevant procurement processes either during or after the study. Nonetheless, any and all attempts will be recorded and reported to UNICEF.

We have not identified any conflicts of interest in undertaking these study. However, should they arise UNICEF will be immediately informed.

Gender

The field of ECEC has remained gendered internationally, particularly with an over-representation of women in pedagogical roles and men in managerial roles. We will be sensitive to this during our fieldwork. In the event of an imbalance in the demographics of participants, the research team will carefully consider the effect that this way have on the validity of the findings.

Stakeholder participation

The research team is keenly aware of the risks of undertaking research that has policy implications without engaging the stakeholders who may be directly affected. We have identified the relevant stakeholders for this study as potential private providers of preschool services. As detailed in Section 5.3.4, we will seek the input of such providers in our market sounding exercise.

Institutional reviews

As this is a low-risk project, OPM does not require the study to undergo an internal institutional review. OPM remains able to assist with any ethical review required by UNICEF.

Annex J Calculating the economic cost of preschool

Introduction

According to Gustafsson-Wright et al. (2017), the early childhood development (ECD) services costs can be broadly divided into the following three main categories: (1) Direct costs (infrastructure construction, teacher salaries, training, food and supplements, uniforms, cash transfers, equipment, direct administration, and monitoring); (2) Overhead costs (upper-level management in government, plus design, start-up, and evaluation costs); and (3) Imputed costs (volunteer time and opportunity costs of buildings used). Baucal et al. (2016) categorize the PSE program costs, to be more in line with the Serbian situation, into (a) personnel costs, (b) facility costs, (c) equipment and materials costs, (d) overhead costs (e) food and nutrition, and (f) other program inputs.

Gustafsson-Wright et al. (2017) stipulate that there is an "urgent need for accurate cost data in early childhood development (ECD) services," which can support a range of interventions, cost-benefit analysis, budgeting, and scale-up. Since most educational interventions are labour-intensive, Baucal et al. (2016) state that it is important to account well for the number and characteristics of *personnel*. Another component which is important to value correctly is the use of *facilities*. If the preschool program is implemented in rented or leased spaces, the cost of the facility is simply the actual cost of the rent or lease. However, when facilities have been purchased or constructed in the past, as it is the case with public preschool facilities in Serbia, there is no tangible financial transaction. In this situation, Baucal et al. (2016) propose an alternative approach, which is to estimate the cost of renting or leasing a similar space. This is particularly important for the current report, since the analysed PPP models for Serbia will have the non-public providers included into the service delivery, and in their calculations of the economic cost of preschool they will have to consider the facility cost, unlike public providers. *Overhead cost* includes telephone bills, internet access fees, electricity, cleaning, maintenance etc. *Other costs* may include training and evaluation cost, development cost, uniforms, books, transportation and similar.

Baucal et al. (2016) present different ways to estimate the costs of preschool programs as discussed in Myers (2008): by *using the official budgets* and expenditure records; by listing the *ingredients/resources* actually used (see, for example, Levin, 1988; Levin and McEwan, 2003; McEwan, 2012), and by putting together *cost simulation models* (see, for example, Aran

et al., 2018 for Turkey). Budgets are the most frequent source of information for estimating PSE program costs, while the ingredients method and the resource cost method identify and assign a monetary value to the list of ingredients/resources required to achieve intended outcomes. In what follows, we will use both the budget and the ingredient (resource) methods approaches when calculating the economic price of preschool education.

Baucal et al. (2016) also discuss the difference between total unit costs and "operational" unit cost. *Operational unit cost* includes current expenditures (without rents, lease, capital investments, depreciation, etc.), and can be used for the estimation of expenditures needed to populate existing capacities or to organize program in publicly provided preschool facility (either newly constructed or adapted existing facility). When one has to know what is the cost of expanding capacities per child and/or wants to include non-public providers in the program organization and delivery, *total unit cost* following the rule "cost is everything that has a cost value" has to be applied. The calculation of the economic cost of preschool in this report follows the "operational unit cost" principle, excluding capital investments and paid fines and penalties on court decisions. Since the purpose of this report is expanding the preschool services in Serbia through PPP model arrangements, we also provide two scenarios for (i) the start-up grant and (ii) the costs to the LSG of building a new preschool facility.

Unit cost calculation for preschool education in Serbia is defined by the Law on the Foundation of the Education System, article §189, as the *"economic price per child"* of the program. The MoESTD prescribed a "Rulebook on criteria for determining the economic price of educational programs in preschool institutions"[53] (the Rulebook, henceforth) to further regulate the criteria for determining the economic price. The Rulebook stipulates that the economic price of preschool education is expressed as a *cost per child* (monthly or annually). The rulebook specifies that the structure of the economic price consists of the following expenses:

1) salaries of employees and other expenses for employees, which are determined in accordance with the law, general act and employment contract; and
2) operating costs.

According to these regulations, Baucal et al. (2016) discuss that the economic price includes all current expenditures and consists of two parts – *expenses for employees* and *other*

[53] Pravilnik o merilima za utvrđivanje ekonomske cene programa vaspitanja i obrazovanja u predškolskim ustanovama: https://www.pravno-informacioni-sistem.rs/SlGlasnikPortal/eli/rep/sgrs/ministarstva/pravilnik/2014/146/5/reg

operating costs. Standards for the expenses for employees, including the number of hours for each personnel type needed to organize a program, are given in detail. Expenses for employees are specified for an educational group by the program (nursery up to 3 years of age, and groups for children older than 3), and the number of hours for which the program is organized. When it comes to other operational costs, they are just listed and there are no standards for their determination. Depreciation of facilities is not mentioned in the list, only rents (the Rulebook deals with the public preschool institutions which do not pay rents, hence it is not clear when does this apply). This means that the use of facilities, except current maintenance, are not included in the economic price, hence the *economic price is the "operational" unit cost*.

Estimating PSE Costs Using Budget Approach for the Selected Municipalities

To calculate how much the LSG actually pays per enrolled pupil, we need to look at the expenditure of the LSG for a given year. We take a full list of budgetary items (see Table XX in the Appendix). We exclude capital investments from the calculations of the economic price because these are investments in infrastructure and are one off costs (most items under (#51 and #52)[54], as well as paid fines and penalties on court decisions (#483 and #485). We also exclude the spending on subsidies for private preschools in the section #472 Social and child protection ("Naknade za socijalnu zaštitu iz budžeta")[55].

Economic price significantly varies across municipalities with an average ranging between RSD 11,000 in Group 2, RSD 12,000 in Group 3, RSD 14,000 in Groups 1 and 4, and 18,000 in Group 5 municipalities in 2018. When expressed in euros, this amounts to between EUR90 in Group 2 and EUR150 in Group 5 municipalities.[56] Table 1 provides an overview of the total preschool expenditures and total salaries for employees in preschool per LSG and level of development in 2018, for a selected number of LSGs.[57] Figure 1 shows the PSE price per child per municipality and level of development in 2018. It is not clear why group 5

[54] For example, #511 buildings and structures, #512 machinery and equipment, #513 other property and equipment, #514 cultivated assets, #515 intangible assets, #540 natural assets, #541 land, #543 forests and waters.

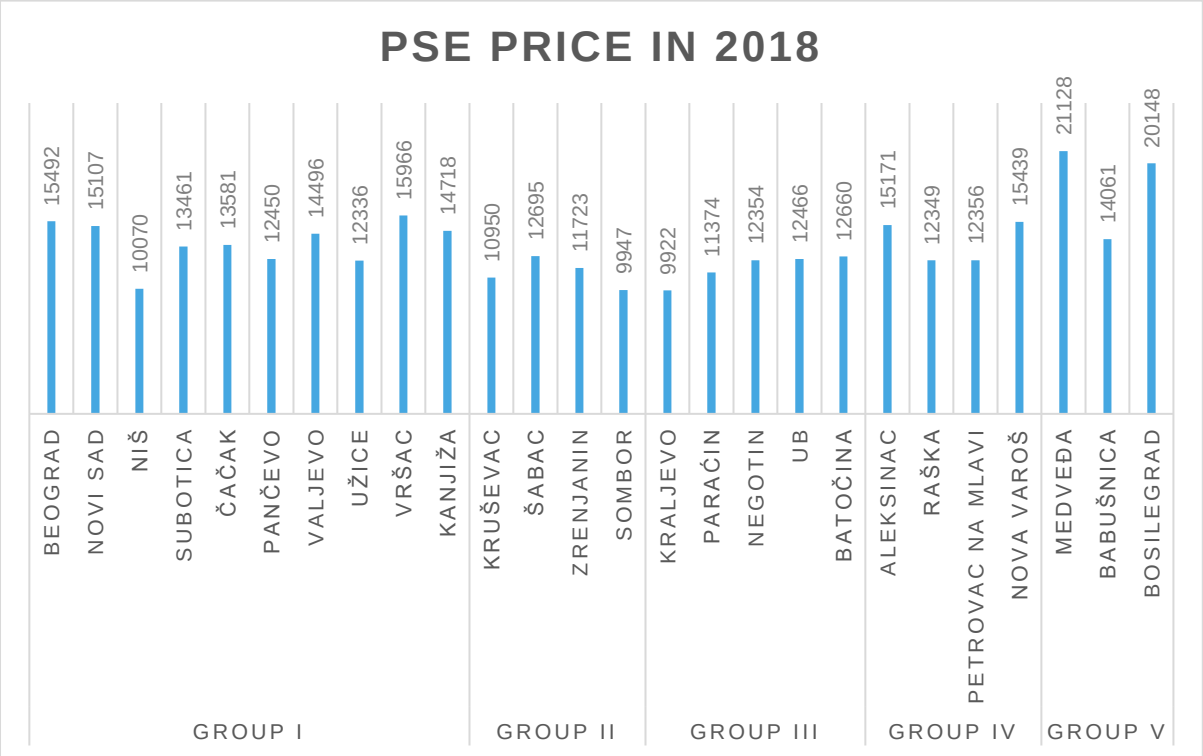
[55] This item is largest in Belgrade (RSD 3,175,741,652 in 2018). Other cities for which this item is excluded are Negotin (RSD 6,750), Šabac (RSD 200,000) and Vršac (RSD 238,575). Other cities either have no children in private PSE or have a zero for this item in 2018.

[56] It is not clear why group 5 municipalities seem to have the highest economic cost of preschool education and this might be due to some error in recording and reporting different budgetary items.

[57] The selection of LSGs is based on the data availability provided by UNICEF and MOESTD.

municipalities seem to have the highest economic cost of preschool education and this might be due to some error in recording and reporting different budgetary items.

Figure J1. Economic price by municipality for public sector, 2018 (in RSD)



Notes: Source: Financial reports of a selected number of LSGs and PŠV data.

Table J1. PSE Costs Using Budget Approach for the Selected Municipalities in 2018 (RSD)

	Total preschool expenditures [(a)]	Total children from 6 months to 6.5 years in PSE	Total children from 6 months to 6.5 years in PSE (public)	Total children from 6 months to 6.5 years in PSE (private)	PSE price ((1)/(3))/12 months)[(b)]
Group I					
Beograd	10,413,626,292	71,197	56,017	15,180	15,492
Novi Sad	2,527,583,628	16,478	13,943	2,535	15,107
Niš	833,774,991	7,296	6,900	396	10,070
Subotica	691,983,000	4,546	4,284	262	13,461
Čačak	555,884,663	4,132	3,411	721	13,581
Pančevo	514,999,672	3,527	3,447	80	12,450
Valjevo	446,177,711	2,565	2,565	0	14,496
Užice	311,751,117	2,120	2,106	14	12,336
Vršac	250,598,730	1,308	1,308	0	15,966
Kanjiža	88,664,037	502	502	0	14,718
Average Group I					**13,768**

Group II					
Kruševac	432,171,283	3,289	3,289	0	10,950
Šabac	479,432,800	3,147	3,147	0	12,695
Zrenjanin	435,827,190	3,113	3,098	15	11,723
Sombor	226,077,462	1,949	1,894	55	9,947
Average Group II					**11,329**
Group III					
Kraljevo	348,987,920	2,978	2,931	47	9,922
Paraćin	135,667,785	994	994	0	11,374
Negotin	84,651,845	571	571	0	12,354
Ub	80,480,920	538	538	0	12,466
Batočina	37,674,675	248	248	0	12,660
Average Group III					**11,755**
Group IV					
Aleksinac	150,559,821	827	827	0	15,171
Raška	117,511,272	793	793	0	12,349
Petrovac na Mlavi	85,257,909	575	575	0	12,356
Nova Varoš	43,352,896	234	234	0	15,439
Average Group IV					**13,829**
Group V					
Medveđa	44,114,838	174	174	0	21,128
Babušnica	23,622,423	140	140	0	14,061
Bosilegrad	20,309,204	84	84	0	20,148
Average Group V					**18,446**

Notes: (a) Preschool expenditures in 2018 (RSD), excluding capital investments, paid penalties and private PSE expenditures. (b) PSE price not counting children in private PSE. Source: Financial reports of a selected number of LSGs and PŠV data.

Estimating PSE Costs Using Resource Cost Method Approach

Calculation of the monthly economic price using the resource cost method results in the price of RSD18 thousand (EUR150) per child in the age group 3-5.5. According to the Rulebook, for a 12-hour duration program per educational group, a number of hours that is equivalent to approximately 3 full-time employees (FTE) is needed (Table 2). This includes approximately 2 FTE teachers per group, as well as 1 FTE expert associate and various other associates, summing altogether to 3 FTE employees.

Table J2. Monthly working hours for 12-hour duration ECEC programs

	3-5.5 years
Organization/coordination	7.2
Professional associates and associates	0.0
Pedagogue, psychologist, art pedagogue, music and physical education and speech therapist	6.3
Preventive health care associate	2.4
Nutrition and care associate	3.6
Social care association	1.9
Teachers (nurse-teacher, teacher, special education teacher)	348.0
Nurse for preventive health care	21.1
Food preparation	21.8
Food serving	34.8
Finance and administration	17.4
Hygiene	87.0
Technical activities	17.4
Total number of hours	**568.9**
Full-time equivalent employees per educational group (total number of hours/average number of hours per month in a year = 174)	**3.3**

Notes: Source: Rulebook on Criteria for Determination of Economic Price of ECEC program. Authors' calculations.

Adopting a version of the approach proposed by Baucal et al. (2016), we proceed by applying wages for preschool teachers and expert associates for 3 FTE employees as reported on www.infoplate.rs[58], ranging between RSD62,000 for preschool teachers and RSD 65,000 for a pedagogue or a psychologist, and use the estimates of other costs based on the data reported in the City of Belgrade Official Gazette in 2020[59]. Table 3 reports that the economic price (operational unit cost) for children aged 3-5.5 is *around RSD 18 thousand (EUR 150)*. This is very close to the monthly economic price of around RSD 17 thousand calculated for Belgrade in the period 2016-2020 (Table 4, column (8)).

[58] https://www.infoplate.rs/plata/obrazovanje-naucni-i-istrazivacki-rad/vaspitac
[59] City of Belgrade Official Gazette, LXIII No. 145.

When compared to the budget method of calculation of the unit price for preschool, this is equivalent to the upper bound of the unit preschool education costs.[60]

Table J3. Simulation of unit cost using resource cost method, for a full day ECEC program (9-12 hours), based on the data in 2020 (in RSD)

	Expenses at the monthly level per child	Per educational group 3-5.5 (24)	Per child 3-5.5
Employees[(a)]		2 FTE * 62,000+ 1 FTE * 65,000 = 189,000	189,000/24= 7,875
Material (food costs for preparing meals for children's nutrition, costs of maintaining hygiene, office supplies, work clothes and shoes for employees, didactics, medical supplies, consumables for working with children, tools, inventory, traffic materials and other materials)	2,740		2,740
Fixed costs (costs of electricity, heating, utilities, property and personal insurance costs, other fixed costs)	438		438
Contractual services (administrative services, computer services, education services, professional exam expenses, information services, household and catering services and other general and professional services)	424		424
Specialized services (education, culture and sports services, medical services, food control and health examinations of employees and other specialized services)	1,854		1,854
Ongoing repairs and maintenance of facilities and equipment	3,342		3,342
Material (food costs for preparing meals for children's nutrition, costs of maintaining hygiene, office supplies, work clothes and shoes for employees, didactics, medical supplies, consumables for working with children, tools, inventory, traffic materials and other materials)	1,577		1,577
Other expenses (vehicle registration, obligatory republic, municipal and court fees, social protection benefits, damages and other expenses)	2,740		2,740
TOTAL PRICE			**18,250**

Notes: (a) Top ranges of salaries of teachers in preschool education (RSD36,384 – RSD61,996) and pedagogues (RSD38,657 – RSD65,436) are taken, as reported on https://www.infoplate.rs/. Other costs are taken from City of Belgrade Official Gazette, LXIII No. 145. Authors' calculations.

[60] Using the resource cost method, Baucal et al. (2016) calculate monthly economic price to be 15 thousand dinars (EUR 125 EUR) per child in a group 3-5.5 years of age in 2015.

Annex K Terms of Reference

Attached separately.

Annex L Inception report, research framework and questions

This annex details the research framework, including the research questions. This is extracted and updated from the full inception report, which is attached separately.

Research aims and questions

Our study aimed to provide clear recommendations on what models of PPP may be feasible for expanding access to preschool education in Serbia, particularly for disadvantaged populations. Our three main research questions are:

1. What is the current state of PPPs in ECE in Serbia and internationally?
2. What are the desired standards[61] for preschool in Serbia, and is there a gap in meeting these standards?
3. What models of PPP in ECE may be feasible for Serbia to expand access to preschool particularly among the Roma and poorest families in both rural and urban areas?

In pursuing these questions, this study aimed to make two main contributions. As detailed in Sections 1.1 and 1.2 of the original inception report, we aimed to contribute towards effective policy development for preschool in Serbia. We also aimed to contribute to addressing the gaps in the literature; specifically, the limited literature of PPPs in preschool and on the specific mechanisms of PPPs that may be most effective in education.

We used these aims to structure our study into three parts, and formulate the following research questions:

Table 56: Research questions

RQ1	What is the current state of PPPs in preschool in Serbia and internationally?
RQ1.1	What PPP arrangements in preschool currently exist in Serbia?
RQ1.2	What is the current need or demand for preschool in Serbia, and how is this likely to grow in the long-term?
RQ1.3	What is the current policy, regulatory, and institutional environment relevant to PPPs for preschool in Serbia?

[61] By 'standards', we refer to both infrastructure and materials, as well as curriculum, teaching and student support.

RQ1.4	What are the implications of the current PPP in preschool arrangements and policy context in Serbia, for the availability, accessibility, affordability, equitability, inclusivity, and quality of preschool?
RQ1.5	What is the evidence for the effectiveness of 'what works' in the use of PPP to expand access to preschool in comparable contexts?
RQ1.6	What can be learned from these arrangements that is relevant to the use of PPPs to expand access to preschool education, especially for the poor and the Roma, in both urban and rural areas?
RQ2	**What are the desired standards for preschool in Serbia, and is there a gap in meeting these standards?**
RQ2.1	What are the current standards for preschool in Serbia?
RQ2.2	What are the current standards for preschool in comparable contexts, such as in other countries in the region and in the EU?
RQ2.3	How does the quality of the actual provision of preschool in Serbia compare to national and relevant international and EU standards?
RQ3	**What models of PPP in preschool may be feasible for Serbia to expand access to preschool particularly among the Roma and poorest families in both rural and urban areas?**
RQ3.1	What models of PPP in preschool are possible in Serbia, and what are the key elements of such models?
RQ3.2	What are the implications for financing and sustainability for the most promising models?
RQ3.3	What are implications for equity and inclusion (such as the proportion of low-income families and Roma reached) for the most promising models?
RQ3.4	What are the potential risks, and economic and social impact, of the most promising models?
RQ3.5	How are private service providers likely to engage with the most promising models?
RQ3.6	For each of the most promising models, are they possible under the existing regulatory environment and, if not, what environment would be necessary?
RQ3.7	Are the most promising models plausible given the current capacity to deliver preschool services in Serbia?

14.4 Implications for the activities listed in the ToR

In Annex C, we have mapped out each of these research questions against the activities described in Section 1.3 and detailed in the ToR. Based on this, we have identified that the following activities in Section 1.3 have only secondary relevance to our research questions:

- Activity 3(ii): Preparation of cost estimates (considering life-cycle cost optimization and the economic life of preschool activities.

For the purposes of this assignment, this activity is subsumed by the 'review of financing and cost-effectiveness, with projection of sustainability and comparison with public provision' (Activity 4(i)). The literature review also suggests that it is very unlikely that a plausible PPP arrangement that is aligned with international best practice will involve government investment in, and ownership of, preschool buildings.

- Activity 4(v): Evaluation of value for money taking into account the best international practice.

As explained in Section 2.2, given the scope of this assignment, this activity has been understood to refer to "a consideration for how a particular model compares to other models in terms of approximate costs and effectiveness." As such, it is subsumed by the other activities in the financial analysis, and in particular Activity 4(i) – as above – which makes a comparison to the cost of public provision.

- Activity 5(i): Private preschool operator landscape and identification of possible service providers.

As explained in Annex B, the private preschool operator landscape is understood to refer to the current distribution of private preschools. This will be included in the study, as it is relevant to the RQ3.7 which considers the current capacity in Serbia for PPPs. However, while the identification of possible service providers will be a by-product of our market sounding exercise, it was not required as a core activity in order to answer the research questions.

14.5 Scope of the study

We offer two additional caveats to the scope of this study:

- The current assignment is a feasibility study, and not an impact evaluation or a costing study. As such, we will not be evaluating the impact of any particular intervention, or providing an exhaustive costing for the provision of preschool nationally.

- Although our research will consider the long-term demand for preschool education, the purpose of this study is to investigate how this demand can be met through PPPs, and not to offer recommendations as to how to increase this demand.

14.6 Concurrent studies

We are aware that the World Bank is undertaking the 'Inclusive Early Childhood Education and Care Project for Serbia'. This project aims to improve access to quality ECE services, in

particular for children from socially disadvantaged backgrounds. It has planned to do so through:

1. Expanding the supply of preschool spaces through constructing new schools, extending existing schools, and repurposing other public buildings;
2. Strengthening the quality of preschool services through improving teacher training programmes and monitoring;
3. Supporting young children and families through a communications campaign, targeted services, and subsidies for vulnerable families; and
4. Providing project management, technical assistance, and monitoring and evaluation services.

It is important to note that our study is supporting the same high-level aims as this study by the World Bank. Our study will contribute to this by exploring a different and potentially complementary route to expanding access for children from disadvantaged backgrounds. Specifically, while the World Bank's project predominately focuses on the public sector, we will provide recommendations regarding public-private partnerships in particular. We have also liaised with the World Bank team in order to receive cost data.