

Supply and Demand for Child Care Services in Turkey

A Mixed Methods Study



September 2015

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ACKNOWLEDGMENTS

This study has been technically and financially supported by the World Bank and Swedish International Development Cooperation Agency (SIDA) and has been prepared for the Turkey Ministry of Family and Social Policies by Development Analytics. This report has been prepared by a team of experts at Development Analytics led by Meltem A. Aran and comprised of Nazlı Aktakke, Kimberly Colopinto, Zeynep Başer, Merve Uzunaliolu and Semuhi Sinanoğlu. Data collection support has been provided by SAM Araştırma and BAREM Research.

We would like to thank Ana Maria Munoz Boudet (Task Team Leader, Poverty Global Practice, the World Bank) for her methodological and overall guidance on the project and the World Bank team William Wiseman (Social Protection Global Practice), Elif Yüksek (Turkey Country Office) and Güzde Yılmaztürk (Turkey Country Office); Ministry of Family and Social Policies Directorate on Woman's Status Project Team members Banu Tuncay Yıldız, Akın Yumuş , Fatma Küçükbaşol, Zübeyde Karagöz, Fatih Feramuz Yıldız, Zeynep Göknil Şanal ve Güler Özdoğan for their overall support throughout the project. We would like to thank Firüzan Özkul Seyfali (MoFSP), Ayşegül TONUÇ (MoNE), Fatma Yavuz (MoNE), Zeynep ÖÇGÜDER (MoNE), Fatih Kaynar (MoNE), Ayşe Nurdan Gezer (MoNE) for comments and guidance received during methodology review meetings in June 2014 and on preliminary results in September 2014.

ABBREVIATIONS

ECA	Europe and Central Asia
ECE	early childhood education
ECEC	early childhood education and care
ECD	early child development
EU	European Union
EU-SILC	The European Union Statistics on Income and Living Conditions
FGD	focus group discussions
FLFP	female labor force participation
GIS	geographic information system
HR	human resources
MONE	Ministry of National Education
MOFSP	Ministry of Family and Social Policies
NGO	nongovernmental organization
NUTS	nomenclature of territorial units for statistics
OECD	Organisation for Economic Co-operation and Development
TUIK	Türkiye İstatistik Kurumu (Turkish Statistical Institute)
WDI	World Development Indicators (database)

EXECUTIVE SUMMARY

1. **Despite increases in availability of center based child care and preschool services in Turkey over the last decade, both the supply of services and utilization remain low.** Preprimary gross enrolment ratio is low in Turkey - with less than one-in-three children enrolled in center based care- in comparison to countries with similar levels of GDP per capita such as Chile and Mexico in Latin America, and Bulgaria, and Romania in the ECA region with enrolment ratios of 113.6, 101.4, 85.7 and 77.4 percent respectively.

2. **There are regional disparities in availability and the majority of children and households remain unserved in terms of child care and preschool services.** Existing gaps in coverage largely vary by region with higher child care supply observed in provinces with higher female literacy rates (correlated with female labor force participation) and in less densely populated urban areas. Current low enrolment among children aged 3 to 5, estimated at 29.5 percent, indicates that about 2.7 million children in this age group are not serviced by any form of center-based preschool.¹ To reach the OECD average of pre-primary school enrolment rate of 80.6 percent², 42,388 new child care facilities with the average rates of enrolment per facility would be needed.

3. **This report has collected and assessed information on the supply and demand for child care services in Turkey with the objective of identifying key constraints and opportunities to expand quality and affordable access.** Fieldwork for the study has been completed during April-June 2014. On the supply side, data was collected for a total of 603 service providers in 5 provinces: Istanbul, Denizli, Eskisehir, Samsun and Gaziantep. The survey included 377 public and 163 private schools under the Ministry of National Education (MoNE) and 63 private service providers under the Ministry of Family and Social Policies (MoFSP). The sample was constructed to represent different province types in the country in terms of female labor force participation and child care capacity. In order to assess the demand for child care, two major pieces of data collection were undertaken in the same five provinces: (i) A Household Survey to mothers of children ages 0-6 in districts selected to represent different socioeconomic groups and including one rural village of each of the Anatolian cities; and (ii) Demand Side Focus Group Discussions with (working and non-working) mothers and fathers.

4. **The analysis in this report shows that current utilization of child care services cannot be construed as lack of demand for services, but rather as a lack of demand for services at existing cost and price-quality structures.** Existing services that respond to the needs of working mothers (in terms of operating hours, and age groups served) are mainly private services and tend to be more expensively priced than the willingness and ability to pay of the average household. For most women –particularly for those with low levels of education- the difference between earnings and the cost of care is too low to justify joining the labor force and their willingness to pay for care does not cover the current median prices for child care and kindergarten services.

¹ The estimate is calculated based on administrative data from the Ministry of Education and Ministry of Family and Social Policies. The WDI enrolment rate is slightly above the calculation based on administrative data at 30.6 percent.

² Source data: Enrolment in child care and preschools for year 2010, OECD Family Database.

Box 1. Early Childhood Education in Turkey, supply and demand characteristics

Supply characteristics

- **Prevalence of public provision.** A total of 26,972 schools and care centers are in operation in Turkey as of 2015, public providers represent 83.8 percent of all providers of child care services, and three-fourths of the total capacity in terms of classrooms located within public facilities.
- **Majority of capacity located within preschool classrooms, inside primary schools.** Preschool classrooms located within primary schools make up 73.9 percent of total publicly provided classroom capacity and 54.7 percent of total childcare and preschool capacity in the country.
- **Limited availability of services for children 0 to 3.** Services – in particular public services – mostly only become available once the children are 5 years old: the survey showed that only 6 percent of spots were available for children younger than 3 in day care services. For children ages 0-35 months, there is no public provision mandated by the law.
- **Limited full day services.** Less than 25 percent of providers offer full day services. Of the small percentage of providers that offer care services to 0-2 year olds, the majority of full-day care providers are private.
- **Under-utilization of capacity, particularly in private facilities.** Being a private center, is associated with a 17.5 percentage point increase in percentage of capacity vacant for services available to 0-6 year old children.
- **Higher quality offered by private providers, mainly due to infrastructure and materials but not to human resources.** Constructed quality indices show that private providers are able to offer higher quality of child care services overall, however this is the result of difference in infrastructure/building quality and partly a result of the materials and curriculum. In terms of human resources quality, the public and private providers in the sample perform about the same, with mediocre scores.
- **Regulation that hampers availability in densely populated urban communities.** Having access to a garden or a ground floor with access to a garden is listed as one of the top most difficult standards to fulfill by both MONE and MoFSP accredited private schools. The application of the legislation is highly problematic, particularly in congested urban areas.
- **Cost of provision and prices for private schools driven mostly by location and building quality.** Analysis shows that prices are highly driven by infrastructure, physical standards as well as human resources costs (such as teacher and director salaries), while teaching content, curriculum, materials, parental involvement variables as measured under the materials quality index do not determine prices.

Demand characteristics

- **High cost is a barrier for utilization of private services for children ages 3-6.** The willingness to pay for child care services is much lower than what is currently available in terms of prices in the market.
- **Regressive distribution of utilization across income groups.** 60 percent of children in the top income decile attend preschool or center-based child care while only 17 percent in the bottom income decile.
- **Social norms shape preference for maternal care of younger children.** The accepted norm for earliest age for sending children to preschool is age 3 for children of working mothers, however perspectives of parents about the earliest accepted age a child can attend a care center varied among fathers and mothers, and depended on whether they assume that the child's mother is employed or not. In both cases mothers believed that children can be enrolled in care centers at an earlier age in comparison to fathers.

- **Among the most important self-reported determinants of child care use are safety, security and healthy emotional and physical development of children.** Ensuring physical and psychological/emotional safety of children emerged as the primary determinant of deciding whether or not to and when to use childcare centers. Quality of care centers, and particularly in terms of its benefits to the child, significantly influence parent's decisions on whether or not to use care centers and also affect willingness to pay for these services.
- **Location is a crucial determinant of child care use.** There was general agreement among mothers that the child care centers should be located in the neighborhood and should be in a walking distance. For actual and potential working mothers another preference for location is care centers placed at or close to their work place.
- **Hours and days of operation do not meet working mothers' needs.** While private centers provide services that are better suited to the needs of working mothers in comparison to the public ones, still only few of them have hours of operation that fit the needs of full-time working mothers.
- **Parents associate quality with availability of child psychologist, teachers with university degree, single age classrooms and low children to staff ratios.**
- **As income level increases evaluation of quality starts to weigh more heavily.** For women of lower income categories, affordability of child care is more important in decisions to use child care. A basic model of child care (a model that is simpler than Turkey's current model required for accreditation) presented to women received "acceptable" scores from most mothers in the sample. Only women in higher income groups had higher expectations of quality than the presented basic model - and they were also willing to pay extra for these premium services.
- **Employment status of mothers is an important factor in the use of care centers.** In the sample it is the employed mothers who are most likely to be using private care centers (Of the private care center users 82 percent is employed). Children of full-time employed mothers are mainly cared for by a family member; whereas the majority of the part-time employed and non-working mothers report taking care of children themselves. The use of private nannies ("*bakıcı*") also exists but is limited in the overall sample.

5. **Given the current economics of the child care market, and the current models used in child care provision, private providers have no incentives to make services available more locally - particularly in poor or middle class neighborhoods- and to a smaller number of children.** The break-even analysis in the report, shows that given the high costs of setting up these centers, the number of children enrolled have to be at least about 40-50 children in order to recover costs of set-up for the private provider in a reasonable period of time. The years it would take to recover costs for a private provider to break even with 20 children enrolled in the center is 3.1 years at average current market prices, and 9.4 years with the average willingness of households to pay for child care services.

6. **The mismatch in the market is summarized below in three levels: (i) accessibility and location, (ii) prices and willingness to pay and (iii) quality of services and expectations of quality.** Analysis in this report shows evidence of a mismatch in the market in terms of expectations on availability, prices and quality between the supply and demand of services and is mainly caused by a lack of adequate public provision or financing to cover the latent demand and by high regulations and standards imposed particularly on the private services.

7. **Reducing the cost of child care will allow more women to participate in the labor market, particularly in urban areas and among women with a minimum of a secondary school degree.** 45 percent of non-working mothers surveyed for this report previously worked and the majority of them reported leaving the labor force specifically due to child care responsibilities. International evidence points out to evidence that increased child care availability increases labor force participation of women. Moreover, evidence from the focus group discussions in Turkey shows that high cost of child care services that would meet a working mother's needs in terms of extent of services and quality, is one of the main obstacles to their

participation in the labor force. 43 percent of the non-working women in urban areas stated that the availability of affordable and quality child care centers would/could enable them to work so that they could improve the family income and the children's welfare.

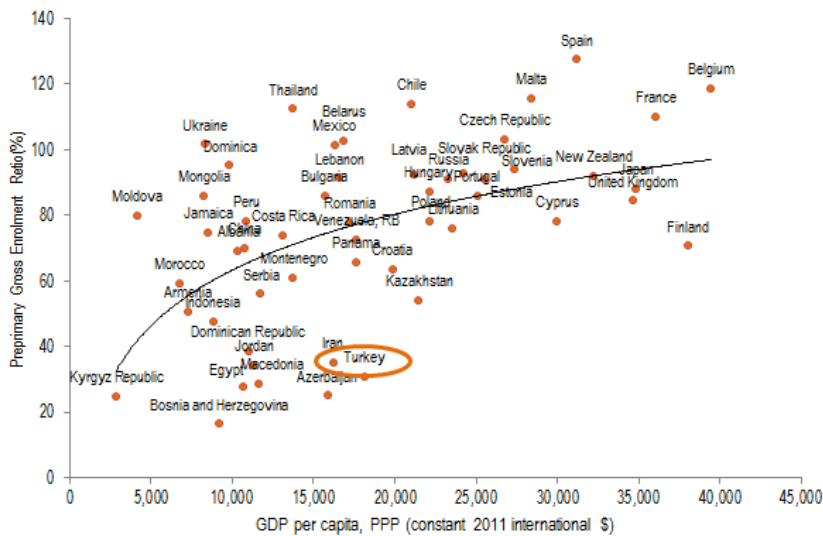
8. **There is evidence showing that the norms around center-based child care provision are changing and it is increasingly expected of government to have an active role in the provision of child care services.** 80 percent of mothers who took the household survey reported that the government has a responsibility for providing care for preschool children. However current set-up of publicly provided child care and preschool services is not conducive for supporting women's labor force participation. Focus group discussions reveal that while the costs of public preschool services are relatively affordable, the quality and accessibility in terms of hours of attendance and age group eligible for these services is too limiting for mothers to use these services as day care options while at work.

9. **Comprehensive policies that target both the supply and availability of child care while making it more affordable on the demand side particularly for women who have potential to join the labor market, are expected and likely to have a high employment impact.** The employment impact of a purely demand side subsidy is likely to be limited and regressive in the short term. In order to tackle the real problem of accessing affordable and quality child care, a viable alternative is a child care model affordable to a larger group of the population and based on the expectations of mothers and fathers. Once this kind of model is widely available in the market – through public or private provision – in a second stage of the program, households who have difficulty in accessing the services should be targeted through a demand side transfer.

1 INTRODUCTION

A growing body of research recognizes that participation in quality early childhood education and care (ECEC) is beneficial for young children, for their parents, and for society at large. Accessible, affordable and good-quality ECEC strengthens (i) equality of opportunity (by facilitating maternal employment and promoting child development and success later in life), and (ii) present-day equality of outcomes (because weak labor-market attachment is a primary cause of social and economic disadvantage and ECEC affordability issues are concentrated among lower-income). The benefits that good-quality care brings for child well-being, e.g., through early socialization, are also greatest for disadvantaged children in poorer families³.

Figure 1 Preprimary Gross Enrolment Ratio (%)



Source data: World Development Indicators 2012⁴

unpaid family workers. Participation rates are especially low among the large group of low-skilled women. During the family formation phase, women in Turkey see a rapid weakening of their labor-market attachment. Often, this leads to long-lasting or permanent labor-market withdrawal, particularly in urban areas. In this context, work/life reconciliation policies can help to break a vicious cycle of limited investment in education and training, poor employment outcomes and pessimistic expectations regarding future earning potential⁵.

While progress has been made in recent years in the availability of preschool services for the 5+ year old age group through public facilities, the current utilization of center-based preschool and child care services in Turkey remains quite low. Despite a target to enroll 70 percent of 3-5 year olds in center based

Supporting access to affordable and quality ECEC can promote female employment, as well as early childhood development. Increasing female formal employment is crucial for economic growth and poverty reduction in Turkey. Despite strong employment growth since the early 2000s, less than one third of working-age women are active in the labor market, and the majority of them work informally, mainly as

³ See also Almond and Currie (2011), Bettendorf, *et al.* (2012), Blau and Currie (2006), Heckman *et al.* (2010), Ruhm and Waldfogel (2011).

⁴ Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. The figure includes countries that have information on both preprimary gross enrolment ratio and GDP per capita information for 2012. Countries GDP per capita of which is less than 40,000 are included in the sample. The Sub-Saharan African countries are excluded from the data.

⁵ Among the key drivers of the large gap in female employment rates vis-à-vis other OECD are low educational attainment, low mobility, incomplete access to information and capital, and very limited availability of flexible forms of employment (e.g., e.g. only 3% of formal sector employment is part-time).

Early Childhood Education (ECE) by 2018 in the 10th development plan which is currently in effect, preschool enrolment among 3-5 year-olds remains less than one third and significantly lower for disadvantaged children. According to the most recent WDI data, Turkey's preprimary gross enrolment ratio is 30.6 percent⁶ and in comparison to countries with similar levels of GDP per capita in the sample, Turkey has a lower utilization of services than predicted by GDP per capita. In international comparisons, Turkey is an outlier in terms of enrolment in preschool services: while countries with similar levels of GDP/capita such as Chile and Mexico in Latin America, and Bulgaria, and Romania in the ECA region report enrolment ratios of 113.6, 101.4, 85.7 and 77.4 percent respectively (See Figure 1).

2 SUPPLY OF EARLY CHILDHOOD EDUCATION AND CARE SERVICES

Child care and preschool services in Turkey are provided by the private or public sector, and accredited by either the Ministry of National Education (MONE) or the Ministry of Family and Social Policies (MoFSP). A total of 26,972 schools and care centers are in operation in Turkey as of 2015, and a total of 52,788 classrooms operate with 60,038 child care takers or teachers employed. Most of the facilities are run by the public sector: of the total number of service providers in the country 83.8 percent are public facilities and only 16.2 percent are private providers. Of the current providers 93.4 percent are accredited by MONE and 6.6 percent by the Ministry of Family and Social Policies (See Table 1). Ministry of Family and Social Policies has the responsibility for opening, operating and governing private crèches and day care centers for children ages 0-6 that are established by private individuals or entities⁷ while child care providers accredited with Ministry of National Education do not serve children ages 0-2.

⁶ Preprimary enrolment rate of Turkey reported by WDI is different than our calculations using data about enrolment numbers that is gathered from Ministry of Education and Ministry of Family and Social Policies. This might be due to using data sources from different years and with respect to different age groups. WDI rates are reported to be calculated by dividing the total number of children enrolled in formal preprimary education by population of children in that age group. However the latest census year reported in the WDI metadata about Turkey is 2011, whereas in our calculations we used data from address based census from 2013.

⁷ According to the Regulation On The Establishment And Functioning Principles For Private Creches And Day Care Centers And Private Children's Clubs which was published in the official newspaper numbered 22781 on 08 October 1996 which was prepared following the Law number 2828 on Social Services and Child Welfare Institute. (Note that, during the preparation phase of the report, instead of this regulation a new regulation with the same name has become in effect which was published on 30 April 2015 in the official newspaper numbered 29342.)

Table 1 Supply of Child Care and Preschool Services in Turkey⁸

	MONE		MOFSP		OTHER	TOTAL
	Public (within Primary Schools)	Public (Independent Buildings)	Private	Private		
Number of Service Providers	20,220	2,259	2,725	1,647	121	26,972
Number of Classrooms	28,864	9,638	8,450	5,268	568	52,788
Number of Teachers/or Caretakers	35,614	15,038	9,247	7,472	667	68,038
Number of Children Enrolled	696,040	280,256	122,303	49,345	8,717	1,156,661
Number of Children Enrolled per Service Provider	34.4	124.1	44.9	30.0	72.0	42.9

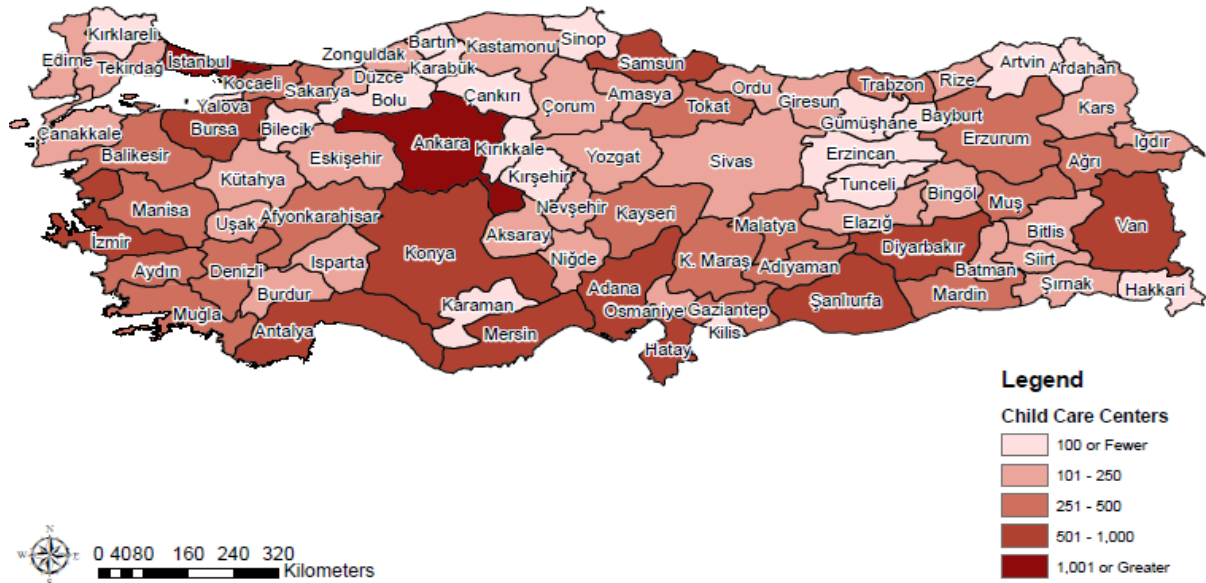
Source data: National Education Statistics, Formal Education 2014/15, Ministry of National Education, Presidency of Strategy Development. Schools in the category “Other” are child care centers within public institutions that were opened in accordance with Law no. 657 article 191.

Capacity of child care and preschool services has significantly expanded in Turkey in the last decade. Compared to statistics from 2006, as of 2015 the total number of service providers has increased by 30.5 percent, and 72.1 percent of this increase has been through public sector provision. Turkey has expanded public preschool provision mainly by increasing the provision of services for the 4-5 year old group (children ages 48 months and older) in preschool classrooms within public primary schools. The number of such classrooms has increased from 19,466 in 2006, to 28,864 in 2015 – an increase of 48.3 percent in 9 years.

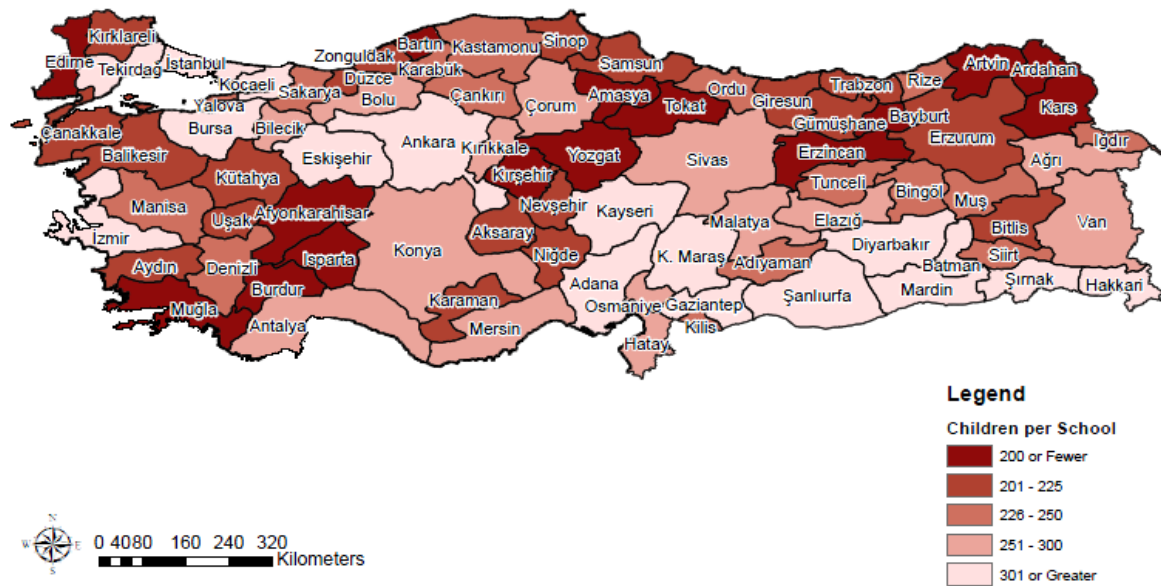
Wide variation in child care service provision exists across provinces. While number of child care centers are higher in more populous cities like Istanbul or Ankara, when we look at number of children per school, we see that such big cities also have higher number of children per child care center. Apart from the big cities like Istanbul, Ankara, Izmir and Bursa, in Southeastern Anatolia number of children per child care center is also high in comparison to other cities. The low number of child care centers in these provinces compared to other cities can be seen in Map 1 Panels A and B.

⁸ Data provided in this table is for the school year 2014/15. However the mapping exercise which was carried out in May 2014, primarily use data for the school year 2013/14.

Map 1 Total Preschool and Child Care Service Capacity by Province
 Panel A: Total number of child care and preschool service providers, by province



Panel B: Population of Children Ages 0-5 per child care center, by province



Source data: Child Care Center data from Turkey Ministry of Family & Social Policies & Turkey Ministry of National Education; Demographic data from 2013 Census, Turkish Statistical Institute, GIS data extracted April 2014 from the GADM database (www.gadm.org), version 2.0, December 2011.

Most of the current ECEC capacity is located within public service providers and the majority of this capacity is within preschool classrooms located inside primary schools. Public providers make up 83.8 percent of all providers of child care services in Turkey, and three-fourths of total ECEC capacity in terms of classrooms are located within public facilities. Except for Istanbul, the majority of service providers in all provinces are public providers (See Map 2 Panel A). These public providers of ECEC are located either in independent buildings or preschool classrooms within primary schools. Preschool classrooms located within primary schools make up 73.9 percent of total publicly provided classroom capacity and 54.7 percent of total childcare and preschool capacity in the country (See Map 2 Panel B).

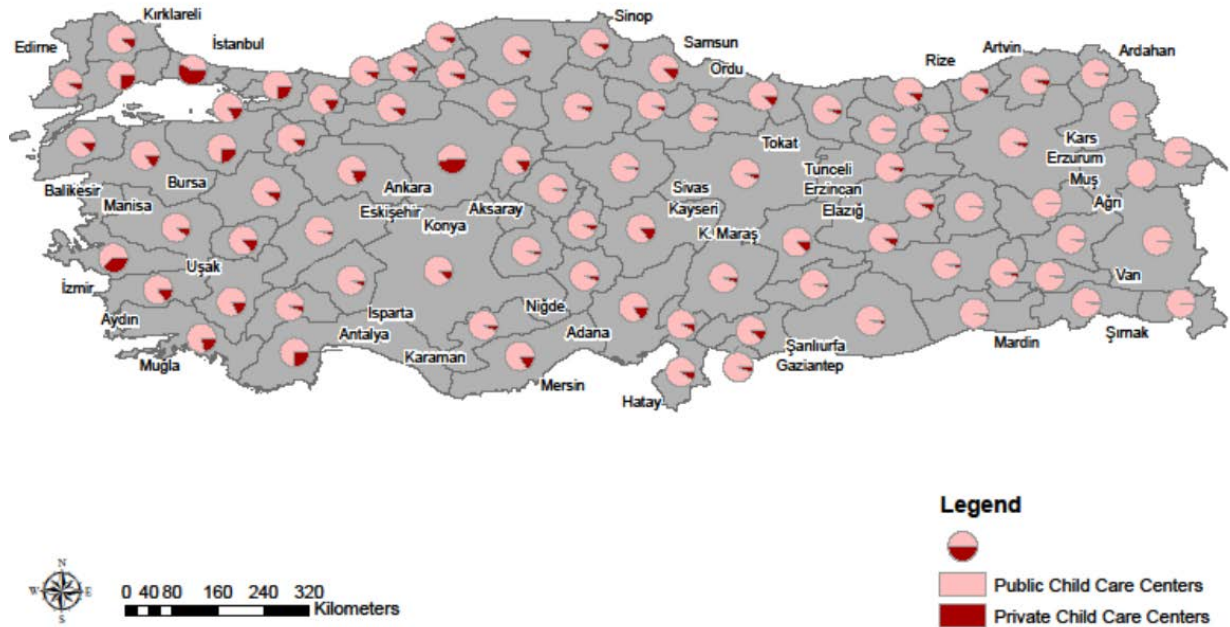
For a selected number of provinces, an address-level mapping of service providers was carried out to see the distribution of services across the districts and neighborhoods in each province. The findings of these province level plots suggest that most capacity in provinces is located in central districts, where the majority of children reside. Whereas in districts outside of the city center, the majority of capacity is made up of public preschool classrooms located within primary school, private centers are almost exclusively located in these cities in central districts⁹.

⁹ A compilation of maps at the address level for the 5 provinces in the study are provided in the online map addendum to the report.

Map 2 Public and Private Provision of Child Care and Preschool Services

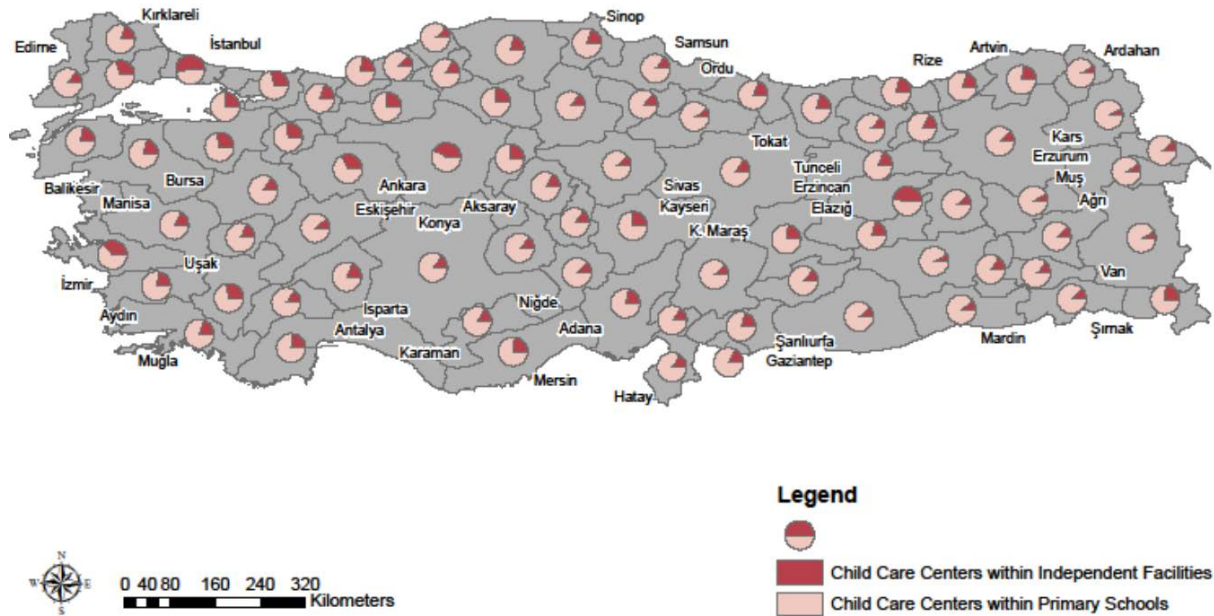
Panel A:

Most of the current capacity is in public service providers (within primary schools or independent facilities)



Panel B:

... and the majority of preschool classrooms (74 percent) are within public primary schools.



Source data: Child Care Center data from Turkey Ministry of Family & Social Policies & Turkey Ministry of National Education; Demographic data from 2013 Census, Turkish Statistical Institute; GIS data extracted April 2014 from the GADM database (www.gadm.org), version 2.0, December 2011.

Despite increases in availability, the majority of children and households remain unserved in terms of child care and preschool services, and there is a high level of unserved need in the country. The total number of children in the age group 0-5 is estimated at 7.5 million children and per provider there are on average 281 children in this age group¹⁰ in Turkey. While in the age group 3-5, there are 3.8 million children in Turkey and of these children only 29.5 percent are enrolled in some form of preschool center based services¹¹. Hence, there are an estimated 2.7 million children in this age group that are not serviced by center based child care services. To reach the OECD average of gross pre-primary school enrolment rate of 80.6 percent¹², 42,388 new child care facilities would be needed for the 3-5 year olds with the average rates of enrolment per facility, and to cover all the children in this age group and reach to 100 percent enrolment rate the necessary amount of facilities is 58,380 (See Technical Note 1 for methodology on unserved need calculations).

Across the provinces, there is a large variation terms of unserved numbers of children, and the total number of facilities needed to serve this population. Details on the calculation of unserved need by province are provided in Technical Note 1 and maps outlining these estimations at the province level are provided in Map 3 Panels A and B. According to these maps and analysis, unserved need in terms of children is highest in provinces where children's population in age group 3-5 are high and there is not enough capacity to cater to these children -mainly in southeastern and eastern Turkey and in metropolitan cities.

¹⁰ Throughout the report when an age interval is given, boundary numbers should be taken as inclusive unless otherwise stated. In some instances ages might be reported as months. In this case 0-11 months is age 0, 12-23 months is age 1, 24-35 months is age 2, 36-47 months is age 3, 48-59 months is age 4, 60-71 months is age 5 and 72 or more months is age 6.

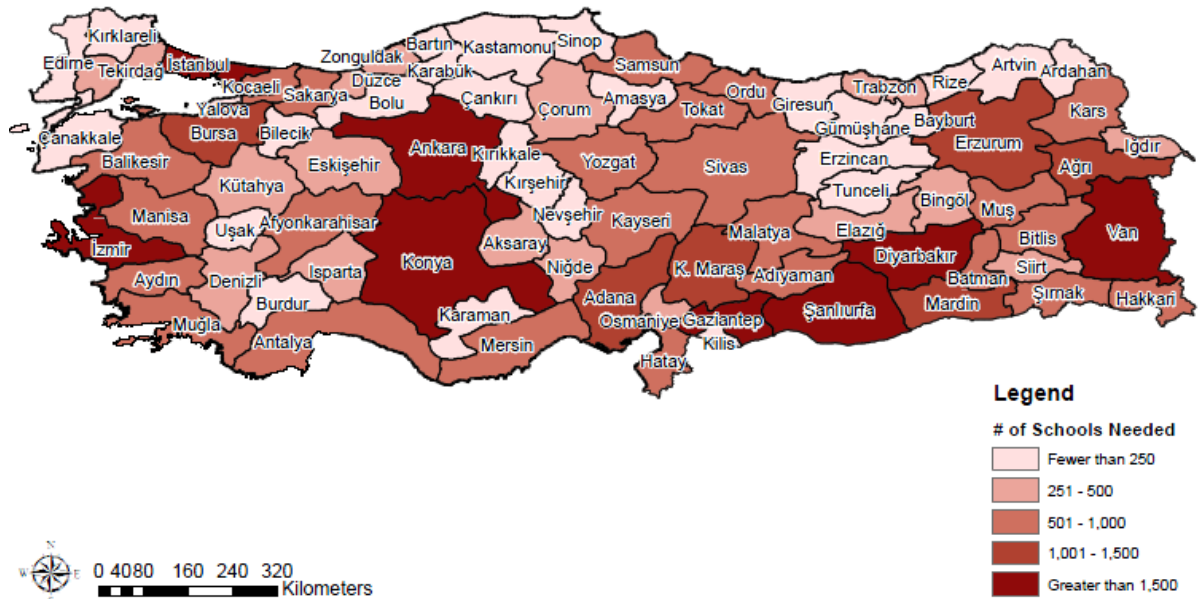
¹¹ Reported national enrolment rates are for 3-5 year olds only.

¹² Source data: Enrolment in child care and preschools for year 2010, OECD Family Database.

Map 3 Total Unserved Need by Province

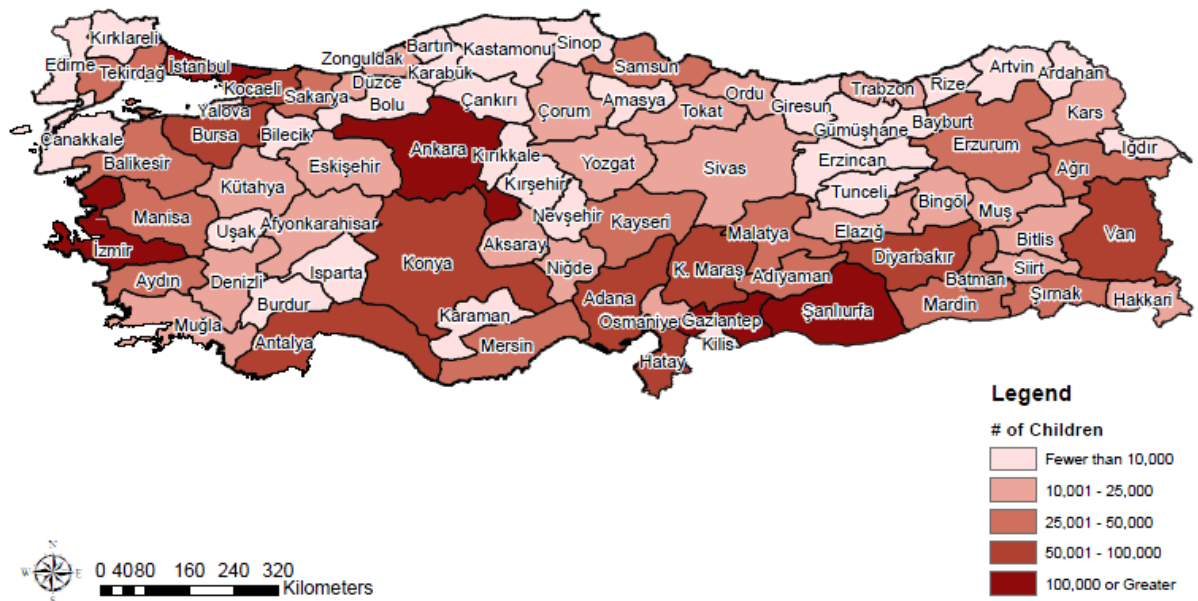
Panel A: Unserved need Estimations Number of Facilities

(Total number of service providers needed to accommodate all children ages 3-5 by province)



Panel B: Unserved need Estimations Number of Children

(Total number of children ages 3-5 not enrolled in center based care)



Source data: Child Care Center data from Turkey Ministry of Family & Social Policies & Turkey Ministry of National Education; Demographic data from 2013 Census, Turkish Statistical Institute, GIS data extracted April 2014 from the GADM database (www.gadm.org), version 2.0, December 2011.

Among the determinants of availability of services by province are: population levels, percentage of children in the population under 6, female literacy and welfare level of province. Provinces with higher welfare levels (as measured by Is Bank's province level development index) are more likely to have a higher capacity of preschools, controlling for the population percentage of children in age group 0-5¹³. However, when several welfare indicators are separately considered in the regression (such as female literacy rate and electricity consumption in the province) and when we control for population level, child population percentage in the province (for children under 6), then the welfare status of the province¹⁴ is no longer positively correlated with higher capacity. Instead, female literacy levels (correlated with female labor force participation¹⁵) are strong determinants of child care supply (See Technical Note 2 for regression results).

Population density in the province has a negative impact on child care supply. We should expect to see no impact of population density on child care supply, controlling for the population level in the province, as the density of the population (controlling for welfare level in the province), should not be linked in a positive or negative way to child care supply. However, we see in the case of Turkey that there is in fact a negative relationship between the supply of child care services and density of an urban area according to the results of the regression analysis (See Technical Note 2 for regression results). In other words, an increase in the number of people per square kilometer is negatively correlated with the number of child care centers in a province. In this report, we will go into detailed analysis on the possible reasons for this finding for densely populated areas, looking particularly at constraints and costs of setting up child care centers under the current government standards.

2.1 SUPPLY SIDE ASSESSMENT

The supply side service provider quantitative survey was conducted for this study in 5 provinces in Turkey (Istanbul, Denizli, Eskişehir, Samsun and Gaziantep)¹⁶ and data from a total of 603 preschools and child care providers were collected in these provinces. The sample of care providers consisted of those that provided any type of care services, and included: (i) Pre-school classrooms in primary schools, (ii) Public independent pre-schools (including those registered with MONE and local municipalities), (iii) Private providers – accredited private providers through MONE or MoFSP Child Services, (iv) Community providers – including cooperatives, neighborhood associations, non-profit (NGO) providers. A total of 377 public and 163 private schools under Ministry of National Education (MoNE) and 63 private schools under Ministry of Family and Social Policies (MoFSP) were interviewed in the sample. The distribution of schools by type of facility and accreditation type across provinces is provided in Table 2.

The sample was constructed to represent different province types in the country in terms of female labor force participation and child care capacity. The sample included:

¹³ The province level development index is provided by Turkiye Is Bankasi (in Column 6 of the regression).

¹⁴ This welfare variable is proxied by per capita electricity consumption in the province (which represents both industrial and residential electricity consumption).

¹⁵ Female labor force participation levels are only provided by TUIK at the NUTS 2 level, hence they were not included in the province level regression analysis.

¹⁶ The schools visited were sampled from lists provided by MoNE and MoFSP as well as from direct field work. The survey was implemented between May 15 and July 11, 2014.

- i. one province with high female labor force participation and high child care capacity (i.e. Denizli),
- ii. two provinces with medium female labor force participation and medium child care capacity (i.e. Samsun and Eskişehir)
- iii. one province with low female labor force participation and low child care capacity (i.e. Gaziantep).
- iv. The largest and most populous province in the country, Istanbul, was used in the sample in order to highlight problems relating to large metropolitan cities.

The supply side service provider quantitative survey consisted of 8 modules: (1) Information about child care service provider, (2) Availability and enrolment, (3) Pricing and costing, (4) Human resources, (5) Daily routines, (6) Family involvement, (7) Regulations and standards, (8) Observations in the child care facility. The first seven of these modules included questions asked to the person in charge at the schools, while the final module included observation to be undertaken by the enumerator at the facility¹⁷.

Table 2 Supply Side Quantitative survey of care providers

	MONE		MoFSP	TOTAL
	Private	Public	Private	
Denizli	7	33	4	44
Eskisehir	21	97	5	123
Gaziantep	3	81	19	103
Istanbul	124	136	17	277
Samsun	8	30	18	56
TOTAL	163	377	63	603

2.2 CAPACITY BY AGE GROUP

In the sample of service providers surveyed, most catered to children older than 4 years (48 months), and capacity was highest for children of age 5 (60-71 months). Of the total capacity of providers¹⁸ visited in the supply side survey, 61 percent of spots were available for children that are at least 5 years old. The remainder of the capacity, 39 percent, was allocated for children aged between 0-4. For children of ages 0-2 only about 6 percent of capacity was available. Enrolments followed a similar pattern, with most of the enrolled children falling into the 5-6 year old category in the sample of schools visited (Figure 2).

A significant gap in capacity and provision of child care services exists for the 0-2 age group. In the overall sample, only 6 percent of spots were available for children younger than 3 in day care services. Services – in particular public services – mostly only become available once the children are 5 years old. Hence the distribution of capacity by age group, makes it difficult for women to use the current set of services for child care during working hours before their children reach the age of 5.

¹⁷ More details on the survey instrument are provided in Technical Note 3.

¹⁸ In the supply side survey, service providers reported for each age level (1-6) the number of groups that they have and how many children they can accommodate in each group. The capacity is calculated by multiplying the number of groups for each age level with the number of children each group can accommodate.

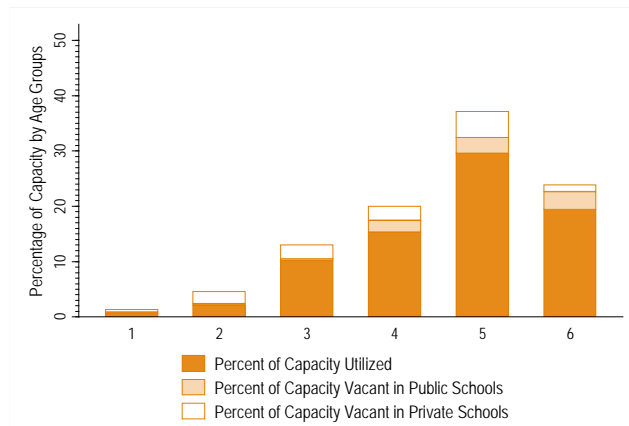
The lack of capacity for earlier age groups is a function of the service mandate of public providers, which are currently all run by the Ministry of Education. Currently, according to the Ministry of National Education's most recent regulation¹⁹ on preschool education, preschool classrooms that are operating inside primary schools provide services for children who are 48-66 months old and independent preschools provide services to children who are 36-66 months old²⁰. For children ages 0-35 months, there is no public provision mandated by the law.

The capacity utilization rate (number of children enrolled/capacity for age group) is around 79.2 percent for the 3-6 year group and 53.2 percent for the 0-2 year group in the sample of schools visited. Overall 77.3 percent of total capacity is utilized. While there are vacant spots available in existing preschools and day care centers, this evidence cannot be construed as lack of demand for services, but rather as a lack of demand for services at existing cost and price structures²¹.

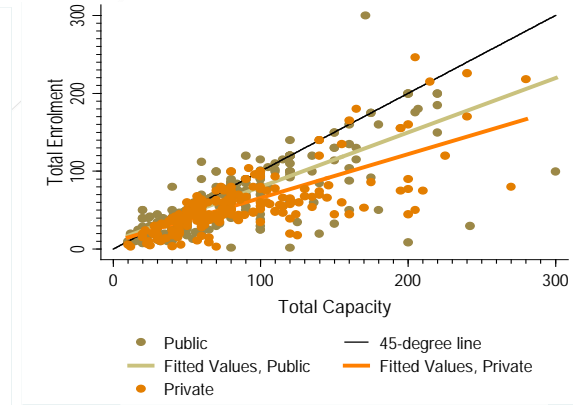
Figure 2 Capacity And Vacancies
Existing Child Care And Preschool Service Capacity
Mainly Benefits Children Ages 5-6...

Most Vacancies Are In Private Schools And Public Schools Are More Likely To Operate At Full Capacity.

Panel A



Panel B



¹⁹ Source: Article 4 of Regulation on Preschool Education Institutions and Basic Education Institutions, published in the official newspaper numbered 29072 on 26 July 2014.

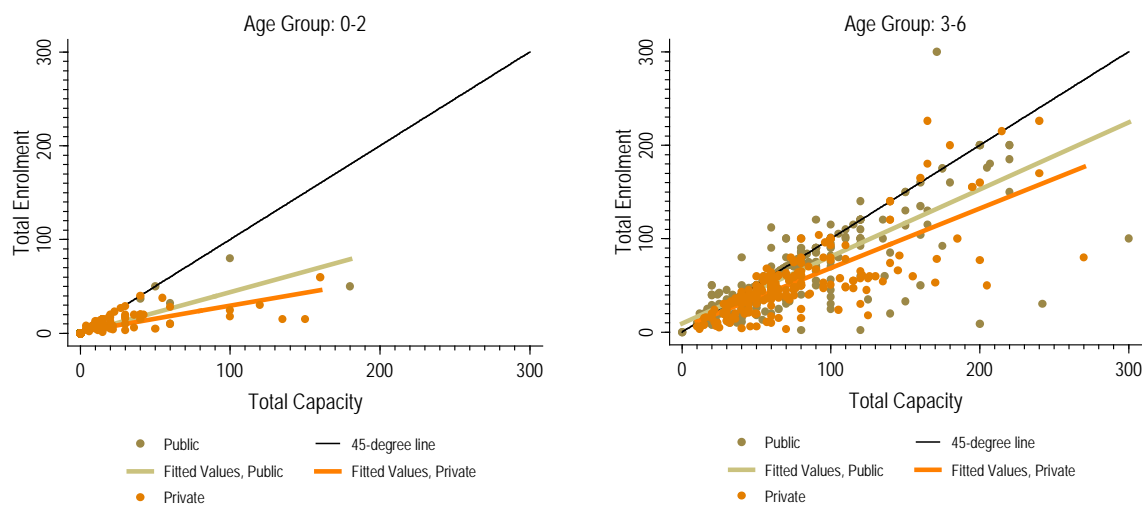
²⁰ These are the same age limits that have been implemented with Article 2 of Regulation about Changing the Regulation on Preschool Education Institutions published in the official newspaper numbered 28360 on 21 July 2012. According to this regulation preschool classrooms inside primary schools serve to children who are 37-66 months old. In operation this is the same with the most recent regulation since the children need to complete 36 months by the end of September in both cases.

²¹ We will provide further evidence on this point in the remainder of the report (See section 3.7).

Private schools have more vacancies compared to public schools for age groups, 0-2 and 3-6.

Panel C

Panel D



Source data: Turkey Child care Assessment Supply Side Dataset.

The vacancies in service providers are mainly found in private facilities. Of the total vacant spots for all children ages 3-6, 56.8 percent are in private facilities. Similarly, of the total vacant spots available for children aged 0-2, 83.7 percent are in private facilities. Figure 2 B provides an analysis of capacity and enrolments plotted against one another for the sample of schools visited. Where the 45 degree line is the line of full capacity utilization, both private schools and public schools fall below the 45 degree line, though private schools are likely to report higher vacancies, and therefore their predicted fit is below that of public schools. A similar association with being private and having more vacancies can be seen for care centers providing services for age groups 0-2 and 3-6 as can be seen in Figure 2 Panel C and D, respectively. A regression looking at the determinants of having high vacancies in a school or day care center, and controlling for prices, neighborhood welfare, and total capacity of school also shows that being a private center and having high reported capacity are the two significant determinants of having vacant spots available. Being a private center, is associated with a 17.5 percentage point increase in percentage of capacity vacant for services available to 0-6 year old children, the same number is 36.2 and 15.9 percentage points for schools providing services to 0-2 year olds and 3-6 year olds respectively (See Technical Note 4 for regression results).

2.3 HOURS OF CARE

The provision of care is limited not only by the age group of children served, but also by the hours in the day service is available to parents. Full day options are mainly provided by private service providers, while public preschools generally operate either in two half day shifts or only half day. Of the small percentage of providers that provide care to 0-2 year olds, the majority are private (See Figure 3 Panel A) ²². The current service hours by public providers, does not make it very conducive for mothers to utilize these services as “child care” that frees up their time from child care responsibilities and allows them to rejoin the labor force after maternity leave.

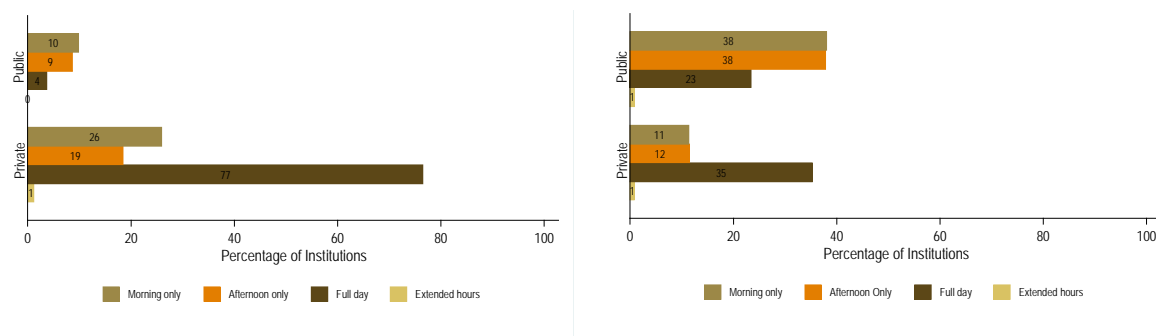
²² It can also be seen that most of the private school operate full time only, without half day flexibility for all age groups. Operating times of service providers in the sample are reported in detail in Technical Note 5.

For the older group of children (in age group 3-6), again mainly private facilities provide full day care. Of the institutions surveyed, 58.8 percent reported having full day services for this age group, of which 60.1 percent were private facilities. Public preschools and day care centers, tend to provide only half day of services for the 3-6 year old group (See Figure 3 Panel B)

Figure 3 Hours of Care

For 0-2 year age group, full day services are provided mainly by the private sector...
(for Age Group 0-2)

... public preschools tend to provide half day services for children ages 3-6.
(for Age Group 3-6)



Source data: Turkey Child care Assessment Supply Side Dataset.

Note: The figure provides the percentage of all service providers that provide services to the specified age groups, by operating hours. Each service provider can choose more than one option in terms of operating hours.

Private schools operate for longer hours during the day, compared to public schools. In Figure 4 Panel A a distribution of public and private schools according to their opening and closing times on a Monday can be seen. Although opening hours of public and private schools are similar, their closing times are different. On average public schools operate till 16:50 (on a Monday), while private schools operate till 17:53 on average. This may not cater well to the needs of working mothers since work day lasts till 18.00 or later usually²³.

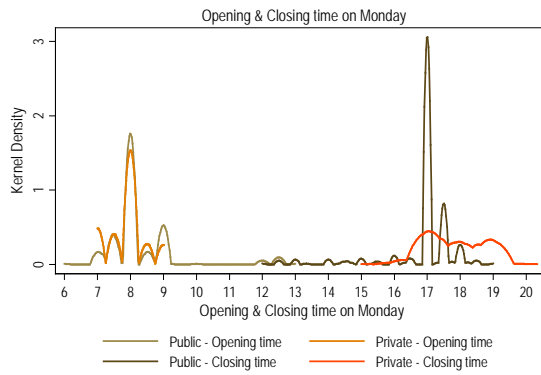
During the summer months, private schools mostly continue operating while most of the public schools are closed. The average weeks in each month that service providers are open is plotted in Figure 4 Panel B by type of provider. The figure shows that most public providers report being open for 2 weeks in June and 2 weeks in September, and none at all in July and August. Since they follow the academic calendar, in summer months preschool classrooms inside primary schools do not provide services. Private care centers

²³ In fact regulations exist for child care providers accredited with MoNE and MoFSP to operate after working hours. In public or private child care providers accredited with MoNE children's clubs can be established if the parents ask and apply for. For a children's club to be established there should be at least 10 parents applying and total number of children in the club cannot exceed 20. Attendance to these clubs is on a voluntary basis and there is a fee charged for it (Source: MoNE Directive on Children's Clubs in Pre-Schools and Primary Schools with the Approval dated 26/08/2014 and 45512797/20/3557646 numbered). Similarly, child care providers accredited with MoFSP can apply to the Provincial Directorates in order to provide services after working hours. In case there is personnel provided in the institutions that will operate during night time and on the weekends, responsible caretakers are appointed depending on the number of children (Source: Regulation On The Establishment And Functioning Principles For Private Crèches, Day Care Centers And Private Children's Clubs that was published in the official newspaper dated 08 October 1996 and numbered 22781).

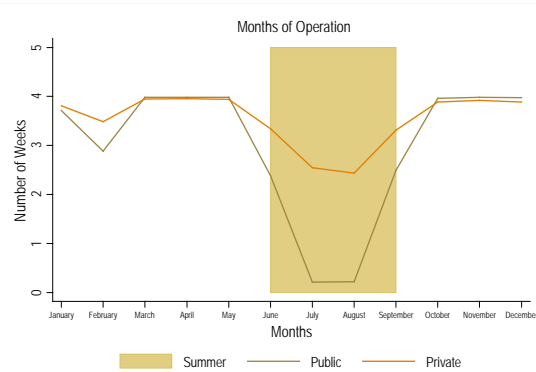
and preschools are more likely to be open in the summer months (on average around 2.5 weeks in July and August)²⁴.

Figure 4 Hours and Months of Operation

Panel A



Panel B



Source: Turkey Child care Assessment Supply Side Dataset

Services are not widely available in all neighborhoods; some children end up commuting long distances for child care and preschool services. The service provider survey asked administrators what percent of their students traveled a “long distance”²⁵ to reach the provider. These administrators were also asked if the neighborhood where the school is located has a low, medium or high welfare status²⁶. The results of the data suggest that children enrolled in private schools in higher welfare neighborhoods are also most likely to commute long distances to reach school (on average 22 percent of children enrolled in private schools in high income neighborhoods are reported to be commuting long distances). This may be an indication of higher quality of those schools and the willingness of parents to send their children longer distances for high quality schools. Public preschools on the other hand admit students mainly on the basis of their residence address (*ikametgah*), consequently percentage of children that travel a long distance is lower for public schools compared to private ones.

²⁴ For working parents, day care centers and preschools that are open year round are likely to be more practical and currently such availability is only possible at some –and not all- private schools.

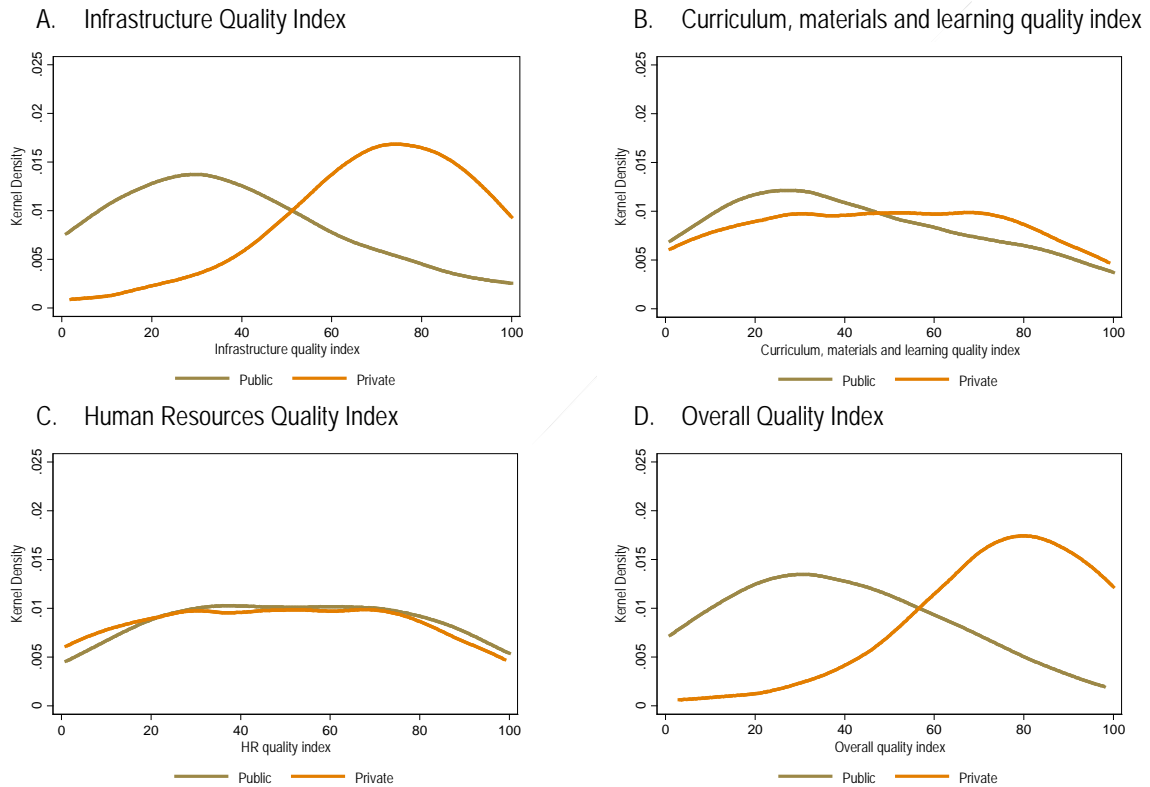
²⁵ The measure of neighborhood welfare is subjective in this analysis. The respondent chooses from high, medium or low as how he/she thinks the welfare level of the neighborhood that the school is located in. Regarding children travelling long distances, in the survey it is asked as how many children who are currently receiving care in the institution come from somewhere besides the neighborhood (or neighborhoods close by) of the school. Hence the percentage of students commuting long distance is calculated by dividing this number by the total number of children enrolled.

²⁶ Both of these measures are subjective measures of distance commuted and welfare of the neighborhood.

2.4 QUALITY OF CARE

Quality of services provided for this age group of children is highly important in terms of their cognitive, physical and socio-emotional development²⁷. Quality can have various aspects and it is difficult to come up with one overall definition of quality for ECEC services. In this report we have rated the service providers in our sample according to three sub-components of quality in order to have a ranking and comparison of overall quality for these service providers. The sub-components of quality were selected as (i) Infrastructure quality, (ii) curriculum, materials and learning quality and (iii) human resources quality. Principal components analysis was used to construct an index of quality in these sub-component groups, and also to create an overall quality index. In order to create these indices²⁸ a total of 38 variables were used, including various characteristics of the service providers and observations at the facility by the enumerator.

Figure 5 Quality Indices By Public And Private Service Providers



Source: Turkey Child care Assessment Supply Side Dataset

²⁷ In this respect, see Technical Note 7 for a list of standards applied in child care centers accredited by MoNE and MoFSP.

²⁸ A list of indicators that were used to construct each quality index as well as the methodology for the creation of the index are provided in Technical Note 6. Averages of these indicators for public and private providers can also be found in Technical Note 6.

On infrastructure and physical attributes of facilities, private providers score a much higher quality score. Infrastructure quality index takes into account a total of 25 variables, all of which were collected through observations at the facility. The variables include whether there is sufficient amount of indoor space per child to move freely, whether the space is in good repair and well-maintained, whether the rooms receive daylight, whether there is a smell (malodor) in the rooms, whether the floors and walls are made of easy to clean materials, whether there is a garden and sufficient outdoor space etc. There are also several safety variables that are included in the infrastructure index list of variables, such as whether there are railings on the stairs, whether heavy furniture is anchored, whether there are safety covers on all electrical outlets etc. (The comprehensive list of variables is provided in Technical Note 6). When public service providers are compared to private service providers on these infrastructure variables, on average, the private providers in the sample data have an infrastructure quality score of 70.4 compared to 38.6 out of 100 for public providers (See Figure 5 Panel A). When we look into the questions included in the index individually, we can see that the widest difference between public and private child care centers is on (i) having a bedroom with enough number of bunk beds, (ii) having a central heating system and (iii) having a garden that has a soft floor with enough grass and soil. These aspects are more likely to be found in private schools compared to public schools (See Technical Note 6 for details of this analysis).

On the curriculum quality index, public and private provider scores are closer to one another though private providers on average perform better. The curriculum, materials and learning quality index includes a total of 9 variables looking at whether the service provider follows a curriculum, whether there is a sufficient number of age-appropriate toys, whether these are organized and conveniently stored, whether there are regular feedback mechanisms that allow parents to get involved, whether there is a daily routine at school, whether children are served food and whether there are special provisions for children with special needs. On this index, private schools again perform better than public schools though the difference is slightly less pronounced: on average private schools score 64.7 and public schools score 42.7 out of 100 on this index (See Figure 5 Panel B). When the questions included in the index are analyzed separately it can be seen that the widest difference between public and private child care centers is on (i) availability of food for children and (ii) opportunities and provisions for parental involvement. Both of these aspects are more likely to be found in private schools compared to public schools (See Technical Note 6 for details of this analysis).

On the human resources quality index, the public and private providers in the sample perform about the same. The human resources index includes 4 variables including the caregiver (or teacher) to pupil ratio, the experience level of the teachers (% of teachers with more than 5 years of experience), educational attainment of teachers (% of teachers or caregivers with university degrees), and whether a small group of children are primarily cared for by one designated staff member. On the human resources quality index private and public schools fare about the same – both with a mediocre score: private schools score 48.0 while public schools score 51.8 points out of 100 on average and the distribution across schools looks about the same for the two types of providers (See Figure 5 Panel C). A detailed analysis of the four variables constituting this index reveals that public and private schools are similar on average on the caregiver (or teacher) to pupil ratio and the experience level of the teachers (% of teachers with more than 5 years of experience). However public schools fare better in terms of the percent of teachers with university degrees while private schools outperform public schools on the last aspect, namely having a designated staff member for each child group (See Technical Note 6 for details of this analysis).

Hence, considering the range of quality indices, private schools are able to provide a higher quality of ECEC services overall. The overall quality index is calculated using all 38 variables used in the construction of the sub-indices. In overall quality private schools get a higher score compared to public schools (76.4 out of 100 for private schools compared to 38.3 out of 100 for public schools.) The differences in quality across providers is mainly a result of differences in the infrastructure/building quality index and partly a result of the materials and curriculum index (See Figure 5 Panel D).

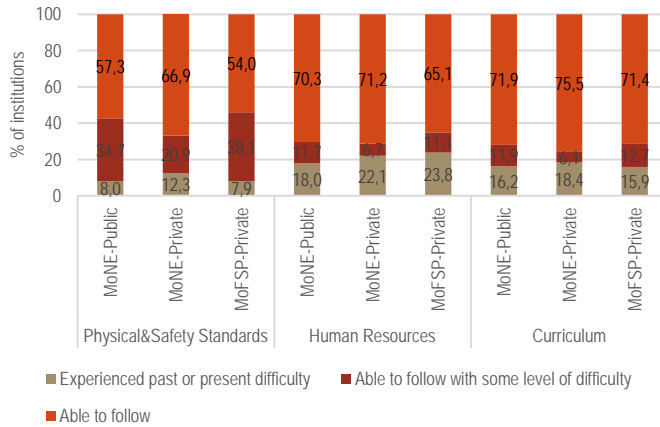
Accreditation standards and licensing costs that make it initially difficult to set up a private establishment for child care provision may explain the gap between public and private providers on the infrastructure index. There is a significant gap in quality (especially in terms of infrastructure quality) between public and private care providers, and there is likely to be room in the middle for services that are of slightly less top-notch quality but are also more affordable to average households.

The requirements for getting accredited to provide child care and preschool services mainly focus on building and infrastructure specifications. Of the total requirements listed in standards for private providers that will be accredited through the Ministry of National Education, 24 items relate to infrastructure, and only 10 in total relate to curriculum, human resources and teaching quality. Similarly for the standards list provided by the Ministry of Family and Social Policies, 21 items are related to infrastructure, and only 7 focus on the quality of care. Overall, 73 percent of items on the percent of items on the standards lists for private provision relate *purely* to infrastructure requirements to be fulfilled at the set up stage. (The full list of standards for MONE- and MoFSP-accredited service providers is provided in Technical Note 7.)

Perceptions by service providers in Turkey on current standards and legislation around child care provision in Turkey, also reveals that a significant percentage of providers experience difficulties following the current standards. Of all public and private providers that were surveyed, half of them (49.8 percent) reported past or present difficulties in following at least some of the standards. The majority of service providers both private and public listed at least one of the infrastructure requirements as most difficult to comply with among all other standards. Infrastructure standards include indoor and outdoor requirements of the building. Among private providers that are MONE accredited, 12.3 percent have expressed that they have had "past or present difficulties" in following standards relating to physical standards of the building and an additional 20.9 percent have expressed that they are currently able to follow physical requirements with some difficulty. Similarly, among private providers that are accredited by the MoFSP, 7.9 percent have expressed concern with fulfilling physical standard requirements an additional 38.1 percent have said that they are able to follow requirements with some difficulty (See Figure 6). In total, 36.7 percent of MONE and MoFSP accredited private providers have expressed concern and difficulties with following physical and safety standards.

Having access to a garden or a ground floor with access to a garden is listed as one of the top most difficult standards to fulfill by both MONE and MoFSP accredited private schools. Among MONE accredited private schools, 43 percent (out of 152 schools in the sample) report that “having a building with a garden” or “being located on the ground floor of a building with a garden” is among the most difficult standards to fulfill (See Figure 7). The second most listed standard to fulfill is having at least 1.5 m2 of garden space per child reported by 40 percent of providers. At least one of these two standards are reported by 64 percent of service providers in this group as one of the most difficult to comply with. A similar pattern is observed among MoFSP accredited private schools: of

Figure 6 High percent of providers express difficulties with following existing standards for child care provision, especially with regards to physical standards²⁹



Source: Turkey Child care Assessment Supply Side Dataset

this group of 57 private schools in the sample, 48 percent report having a garden or a detached building (*mustakil bina*) as one of the top difficult standards to fulfill, while 32 percent report the minimum garden space requirement (1.5 m² per child) as among the most difficult to fulfill. Overall among MoFSP accredited private service providers 61 percent report at least one of these two requirements among the standards that are most difficult to fulfill for them. For MoFSP service providers the requirement for the teacher or main caregiver to have at least a 4 year university degree is also listed among the standards that are most difficult to fulfill (reported by 18 percent of service providers as among the top 3 difficult standards to fulfill). Infrastructure requirements – as enforced in Turkey - are oftentimes easier to inspect and check, however there is no international evidence that points to better learning or welfare outcomes for children as a result of such requirements. The legislation and standards in the EU and OECD countries are certainly moving in a different direction (See Box 1).

²⁹ Of all public and private providers that were surveyed, 49.8 percent of them reported past or present difficulties in following at least some of the standards while 50.2 percent of them reported being able to follow the standards without any difficulty.

Box 1 Quality Standards in the EU and OECD Countries

EU benchmarking on quality standards in EU countries suggests that most countries focus on materials and HR related quality standards when licensing private providers. Major priorities identified by the European Commission and Parliament on the elements of quality of early childhood education and care (ECEC) are (1) increasing access/participation in ECEC (2) strong political, legal and financial structures related to ECEC (3) requirements for the quality of the staff (4) requirements for the curriculum and (5) involvement of parents. An increased focus in developed countries on learning outcomes, and child well-being has moved the agenda on accreditation and supervision to measurement of children's wellbeing, cognitive and socio-emotional development rather than the strict measurement of physical standards (European Parliament, Directorate-General for Internal Policies (2013))With the aim of defining a quality framework for ECEC services, OECD has put forward several policy levers including setting out quality goals and regulations, designing and implementing curriculum and learning standards, improving qualifications, training and working conditions, engaging families and communities and lastly advancing data collection, research and monitoring (OECD, 2011). Hence, improving the capacity of care providers by improving curriculum and in-service trainings is underlined by OECD as important aspects of quality.

On-going supervision, in-service training and measurement of children's learning and development are on the agenda for most developed countries in terms of measurement of quality. This is apparent from what the countries monitor in terms of quality. As reported by the OECD in their latest "*Starting Strong*" report, in OECD countries the most widely practiced monitoring is for "child development and outcomes", "staff performance" and "level of service quality". Countries like Australia and Canada have developed indices and instruments to measure the early childhood development of children at the start of primary school collecting information from their teachers as well as adding demographic indicators. While for teaching, some countries like the United Kingdom have used "passive" monitoring methods, some others monitor the quality of the workforce through renewal of licenses. For example in New Zealand, registered teachers need to renew their registration every three years through an appraisal period. Similarly in Prince Edward Islands of Canada, early childhood educators must submit to the licensing board a record of ongoing training (OECD, 2011). Throughout Europe, continuous education for child care service providers is important in varying degrees. While it is optional in some countries, in other countries like Finland and Portugal -and most recently in Spain - continuous professional development trainings are compulsory for ECEC staff.

Figure 7 Access to a garden is the physical requirement that service providers find most difficult
 (% of service providers that report these specific standards as being among 3 most difficult to follow³⁰)



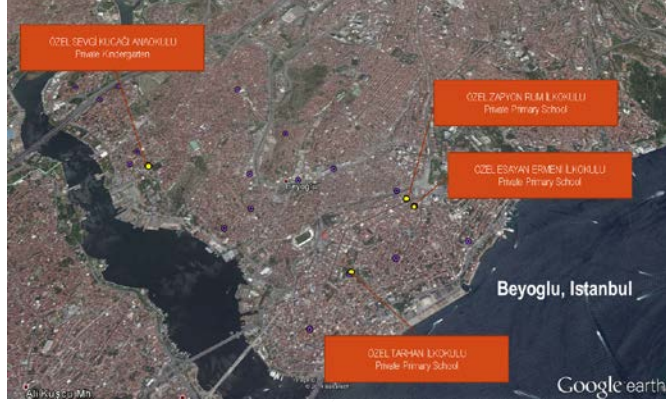
Source data: Turkey Child care Assessment Supply Side Dataset; sample of 152 MONE accredited private schools and 57 MoFSP accredited private schools.

³⁰ Each provider was asked to select 3 requirements from the list that applies to their accreditation. For MOFSP accredited schools, the standards that received less than 8 percent of the votes are not listed in the figure due to space limitations.

The legislation on the garden requirement dates back to the 1960's³¹ and the application of this legislation, particularly in congested urban areas today is highly problematic. While the legislation is set forth with ideals of providing better quality of infrastructure and facilities for children, in its application this set up may provide a policy environment that makes services unavailable for children living in densely populated urban communities, and may therefore be detrimental to children's outcomes in such settings.

A map of *Beyoğlu* district in central Istanbul is provided in Figure 8 to show the lack of green areas and the density of buildings in this urban center. In fact, there is almost no garden space in the district, as visible from the map - though the number of children in the age group living in this district is 20,093 for the 0-5 age group, and 10,057 for the 3-5 age group. The total number of privately provided services in the district is four. Two of these schools were set up in the 18th century (one is a Greek, and the other is an Armenian private primary school), one other is a private preschool within a private primary school. Hence, there is only one private stand-alone preschool in the district, which is accredited by the government.

Figure 8 Fulfilling the garden requirement can be tough, especially in densely populated urban centers (Example: *Beyoğlu* District, Istanbul)



Source: Google maps and MoFSP and MONE address data bases

³¹ Regulation on Preprimary Schools and Classes, published in the official newspaper numbered 11157 on 18 July 1962.

2.5 COST OF CARE

In this section, we consider the costs of operating public and private child care and preschool facilities, looking both at the set-up costs of establishing such a center and also at the on-going operational expenses. While such analyses have been carried out in various theoretical modeling exercises earlier, none of the exercises have to date looked at empirical data coming directly from service providers. This analysis is important for understanding – in practice - the costs involved with expanding services with the current models used in Turkey today.

2.5.1 COSTS OF INVESTMENT AND OPERATION³²

The costs of setting up and running a child care facility are analyzed in this section looking first at investment costs such as (i) building renovation costs, (ii) furniture costs, (iii) teaching material costs, (iv) licensing and (v) other costs involved in the first establishment of the center. Secondly, operational costs are considered looking at monthly on-going costs such as rent³³, salaries, utilities payments, stationary and cleaning material costs. The results on average investment and operational costs are provided in Table 3 for private and public schools separately³⁴.

- **Investment Costs:** Investment costs are on average reported at 278,800 TL (around 126,000 USD) by private schools in the sample. Of the total investment costs, the distribution is estimated to be 41 percent on renovation costs, 22 percent on teaching materials costs, 19 percent on furniture costs, 6 percent on licensing costs and 12 percent on other costs³⁵. Among private schools in Istanbul, the renovation and construction costs were higher while overall furniture and materials costs were lower in the sample of service providers that responded to the question. Investment costs do not include the purchasing price of the building – this is reported under imputed rent in operational costs below.
- **Operational Costs:** Monthly operational costs are estimated at 21,200 TL (around 9,600 USD) for private schools and 16,200 TL for public schools in the sample. The operational costs for private schools are mainly driven by rent (or imputed rent for schools that own their buildings). Rent makes up 27 percent of operational costs for private schools in the sample for schools outside of Istanbul, and in Istanbul this level is even higher at 34 percent of total operational costs. Salaries of the director and care givers in total make up about 24 percent of operational costs of private schools. For public schools, monthly salary of the director and caregivers constitutes the largest share (46 percent) of average operating costs and imputed rent makes up about 23 percent of total operational costs. Materials and stationary costs are reported to be at much lower levels compared to private schools (about 900 TL at public schools per month, compared to 3,700 TL per month at private centers).

³² In the child care centers that the data is collected from, there are 61 children enrolled on average. This number is 59 for private centers while it is 62 for public centers.

³³ If a building is purchased for the operation of the center, imputed/hypothetical rent is taken into consideration. For these schools it was asked in the survey how much monthly rent would the building they own would worth, if it was rented out.

³⁴ Technical Note 8 provides details on the computation of costs from the sample of schools that provided the costing data and how costs were estimated using the reported data.

³⁵ Service providers were asked in the data how much it would cost them to set up a center of this kind today and they were also asked how much it originally cost them to set-up the center (in the past). The historic data included the breakdown of costs by type. Since historic costs are no longer valid in nominal terms, the distribution across items of reported historic costs were applied to the average hypothetical cost of setting up the center today.

Table 3 Average Investment and Operational Costs of Child Care Service Providers

	Private Schools	Public Schools ³⁶
Investment Costs³⁷	278,800 ₺	60,000 ₺
Renovation costs	112,800 ₺	
Furniture costs	53,600 ₺	
Teaching material costs	61,800 ₺	
Licensing costs	16,400 ₺	
Other costs	34,200 ₺	
Operational Costs per month	21,200 ₺	16,200 ₺
Rent ³⁸	7,100 ₺	3,800 ₺
Repair costs	1,500 ₺	900 ₺
Utilities	2,000 ₺	1,400 ₺
Salary of the director	2,900 ₺	2,900 ₺
Salaries of the caregivers	2,300 ₺	4,600 ₺
Salaries of janitorial staff	1,400 ₺	1,200 ₺
Stationery & cleaning materials	3,700 ₺	900 ₺
Travel	300 ₺	500 ₺

Source data: Turkey Child care Assessment Supply Side Dataset

Rent makes up the highest share of costs for private providers (34 percent) and is double the level of imputed rent for public centers. Schools in Istanbul pay higher rents compared to schools in other provinces in the data. The average rent in the sample is 7,100 TL per month for private providers, and 8,200 TL for private providers in Istanbul. This level is only 3,800 TL for imputed rent of public centers. Hence, given the standards on infrastructure and service provision, private centers are able to find locations that fit the requirements at around double the amount of rent compared to public facilities. Private schools deliver a higher quality of service based on infrastructure and building requirements, but also incur a very high cost in terms of their operational expenses in order to deliver this level of quality. Public schools are not subject to the same kind of rental costs– since most of these public school classrooms are based within primary school buildings (90.4 percent of public providers in Turkey are preschool classrooms located within primary schools and similarly in the sample of data used 87 percent of public preschools are in fact preschool classrooms within primary schools).

³⁶ Only 4 public schools have reported hypothetical setup costs in the dataset. Average and median are 60,000 TL.

³⁷ Total setup costs are based on hypothetical setup costs that would be incurred if the school is going to be found today. The distribution of set-up costs is based on historical data.

³⁸ Rent is the amount that is paid monthly by the institution or the “hypothetical” rent if the building is owned by the institution. Hypothetical rent is calculated using the answer to the question in the supply side survey “If you would rent the facility out, how much would you ask for it today?” asked to service providers that reported they own the building in which the facility is located. Tax is included in rental cost estimations.

2.5.2 PRICES AND USER FEES

User fees were reported by service providers on a half day and/or full day basis and per student enrolled.³⁹ In the data half day and full day prices were reported by schools providing both types of services. The median price reported by public service providers in the sample was 100 TL for monthly half day service provision, and 300 TL for full day service provision. For private care providers, the monthly median price was 500 TL for half-day services and 700 TL for full day services.

Table 4 Average and Median Prices for Public and Private Service Providers (including VAT)

	Private	Public
Average		
Monthly half day price	528 ₺	249 ₺
Monthly full day price	790 ₺	504 ₺
Median		
Monthly half day price	500 ₺	100 ₺
Monthly full day price	700 ₺	300 ₺

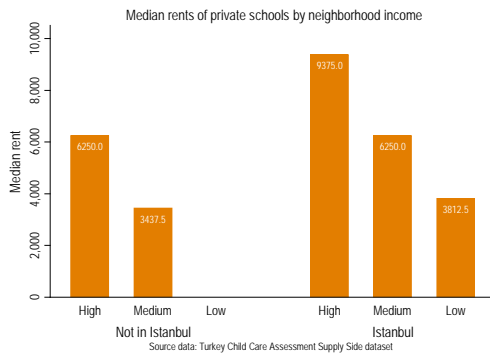
Source: Turkey Child care Assessment Supply Side Dataset

Figure 9

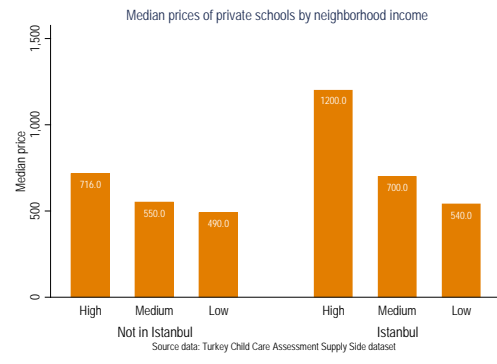
Location Matters for Rents of Private Service Providers...

...and location also matters for determining the prices of Private Service Providers

Panel A



Panel B



Source: Turkey Child care Assessment Supply Side Dataset

³⁹ The data were collected for half day and full day services. Most of the providers reported monthly prices for their services. For the ones reporting hourly, weekly, semester or yearly prices, they are converted to monthly prices by multiplying or dividing with the necessary numbers. When a single monthly price is reported in the analysis, such as in the regressions, it should be understood as the full day prices. In the case when schools only reported half day prices, in order to convert them into full day prices, the amounts has been multiplied by 2 for public schools and by 7/5 (ratio of median full day to median half day prices of private schools) for private schools.

Prices charged by service providers vary widely in the sample depending on location of care provider, particularly for private providers. Location matters for determining rental costs and prices paid by families at private schools reflect a strong pass-through from real estate and rent prices. Median monthly rent of the facility not surprisingly increases with neighborhood income (see Figure 9). There is a wide distribution of prices charged by private schools, and location (welfare status of neighborhood⁴⁰) and rent variables are highly correlated with prices charged by private preschools and day care centers.

For private schools, there is a strong correlation between the infrastructure and HR quality scores and prices, while there is a negative relationship between the materials/curriculum quality index and prices. As a result, overall prices charged by private preschools and child care centers do not correlate significantly with overall quality of services provided (using the 38 indicators in the quality index). Another way to interpret this finding is to say that prices are highly driven by infrastructure, physical standards as well as human resources costs (such as teacher and director salaries), while teaching content, curriculum, materials, parental involvement variables as measured under the materials quality index do not determine prices. A higher priced private preschool then does not necessarily provide higher quality teaching or care, instead most of the difference in prices are associated with fulfilling physical requirements and teacher qualifications at school. A 10 point increase in the infrastructure quality index is associated with a 33.4 TL per month increase in the per pupil fees charged at private schools and a 10 point increase in the HR quality index is associated with a 40.2 TL increase in the monthly user fees charged per pupil (See Technical Note 9). The results from this simple regression are robust when the quality indices are controlled for at the same time in a multiple regression as provided in Column 3 in Technical Note 10.

In public service centers, there is no relationship between building quality and prices charged – though the HR quality index and the materials quality index is related to pricing. This finding reflects the fact that at public service providers infrastructure costs are covered and in certain ways are not visible to the service provider, since most preschool classes are within existing public school facilities. Only extra material and curriculum costs and extra support teachers are paid for by the user fees collected at these schools. A weak relationship is observed between public provider prices and quality overall. (See Technical Note 9 Panel B)

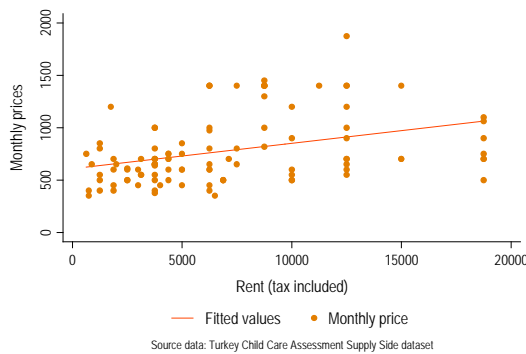
At private facilities rent, more than – for instance - salaries paid for teachers and staff, determines prices. In fact, the monthly salary of caregivers is not associated with an increase in prices, though rental prices are significantly associated with increases in monthly per pupil prices of private care providers (See Figure 10). Part of the reason for this is that increased infrastructure quality (which reflects on rental costs) increases prices – this is to be expected and only reflects better building quality and physical standards passing through to pricing of services.

⁴⁰ As subjectively reported by service providers. Service providers were asked in the Supply Side Survey about the welfare level of the neighborhood of the school. They chose among the options high, medium and low.

Figure 10 For private providers, pass-through from rental costs to prices, is higher than that from salaries⁴¹

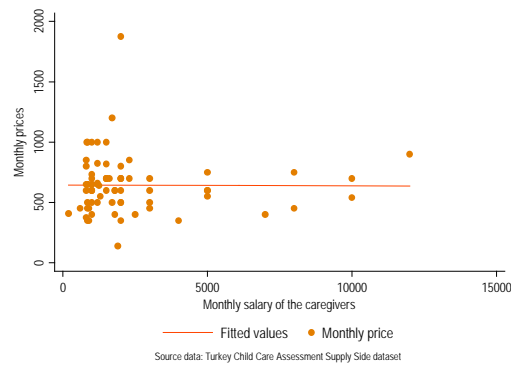
PANEL A

Prices vs. Rent



Panel B

Prices vs. Salaries



Source: Turkey Child care Assessment Supply Side Dataset

Prices at private facilities are driven largely by location and real estate costs, as well as physical standards of buildings. In other words real estate prices have a strong pass through to rental costs and to user fees in public facilities. A regression that controls for “neighborhood welfare” (in other words location and real estate costs), rent as well different aspects of quality (HR quality, materials quality and infrastructure quality indices) finds that prices are driven by real estate location, and infrastructure quality – though human resources and materials quality are not positively associated with higher prices of service providers (See Technical Note 10 Column 7 in regressions).

2.5.3 FUNDING MECHANISMS AND FEASIBILITY OF INVESTMENT

Given the cost structure for private service providers and prices, this section of the report considers a break-even analysis and financial incentives for private investors who might be considering investing in provision of child care and preschool services.

A break-even analysis looking at number of years required to recover investments with different levels of pupil enrolment, shows that it is not feasible to set up a private child care center serving a small number of children in a neighborhood⁴². At the current average price and costs of private schools, it takes an estimated average of 6.2 years to recover costs of investment and break even with a capacity of 10 children, 3.1 years with a capacity of 20 children, and 2.1 years to recover costs with 30 children using the care provider’s services⁴³. Only after that point can an average private provider begin to make profits from this investment⁴⁴.

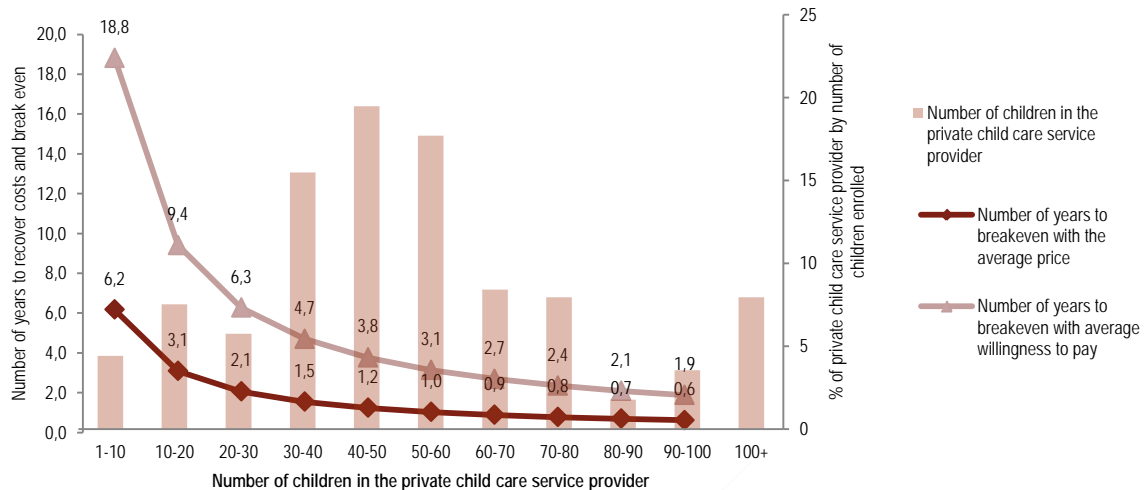
⁴¹ See results presented in Technical Note 10 Column 1-2 for coefficients on these simple regressions.

⁴² Technical Note 11 provides details on the methodology and data used for the calculation on break-even number of years of operation for private providers.

⁴³ It must be noted that this analysis does not take into account the possible investment cost increases coming from increasing the number of children. Instead an average fixed amount is used in the analysis as investment costs. However due to the indoor and outdoor space requirements for each child, initial setup costs can be higher for facilities with higher

Figure 11 Given the current structure of costs, it is not feasible to set up private child care centers serving a small number of children in a neighborhood

(Number of years it takes to recover setup and operational costs with current prices, and with current willingness of households to pay for services)



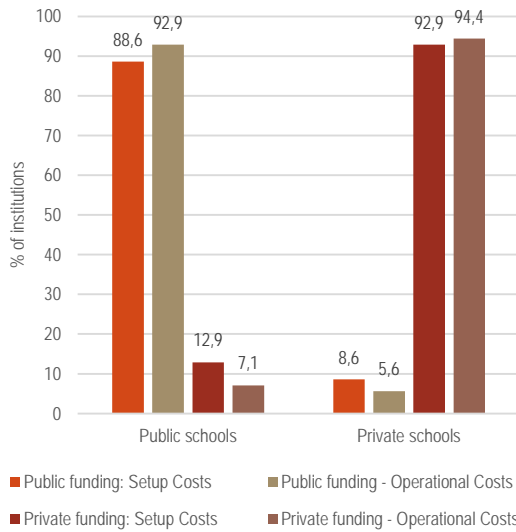
Source: Turkey Child care Assessment Supply Side Dataset and author calculations

When we take the average willingness of households to pay for child care services as they are reported in the demand side survey (rather than the current prices in the market), the number of years necessary for break-even is even higher. An estimated 18.8 years is necessary to recover costs when 10 children use the facilities, and an estimated 9.4 years is necessary for recovering costs when 20 children are enrolled. These private facilities need to have a minimum scale of around 50 children in order to break-even in a shorter period of time: given the current prices with 50 children they break even within 1.2 years, and given the average willingness to pay of households (from demand side survey), they break even at around 3.8 years. Figure 11 highlights this analysis and provides in the histogram columns provided in the data the percentage of private service providers in the current supply side data set that have the stated number of children in the x-axis. In the supply side data, 52.7 percent of private providers have between 30-60 children, and the mode is service providers that have between 40-50 children enrolled (19.5% of total number of private providers in the data). This feasibility and break-even analysis shows that a minimum level of scale at around 40-50 children per provider is necessary at current market prices and set-up costs, which makes it extremely difficult to set up such centers at smaller scale at the neighborhood level. This analysis provides insight on the difficulties of setting up small scale private initiatives in urban neighborhoods, using the current models.

number of children which would lead to an increase in the time to break-even. Hence, the curves in Figure 11 are expected to drop more slowly and our findings should be regarded as lower bound estimates.

⁴⁴ The costs do not include the cost of financing (in other words the opportunity cost of money) and does not take into account the interest rate. The costs calculated here only include investment costs and operational costs of the facility as provided by the private service providers in the data set. Hence, this is a lower bound estimate on how long it would take to recover costs.

Figure 12 Public Financing of Private Provision is not Commonly Practiced
(Sources of Funding for public and private child care providers)



Source data: Turkey Child Care Assessment Supply Side Data Set.

sources of financing for their investment and operations (See Figure 12).

The Turkish government has in the recent years passed legislation to provide incentives and encourage child care and preschool investments by the private sector. Actually, there have been incentives regarding private provision of child care services for a long time. For almost 30 years now, private preschools that are accredited by MoNE are exempt from corporate income tax and personal income tax that are due to the operations of the preschool for a grace period of 5 years⁴⁵. However more recently government has introduced new regulations to provide more incentives to private investors. As of October 2012⁴⁶ private investments regarding private preschools and as of May 2014⁴⁷ private investments regarding day care centers and crèches have been added to a list of “priority investment topics” such that private investors anywhere in the country can now benefit from the type of public incentives provided in less developed regions

Private and community-driven initiatives are currently also not supported through public funding, which adds to the difficulty of financing community-driven private initiatives under the current standards, and without access to public financing. For the existing private providers in the data, 93 percent reported that set-up costs were covered through private means, and 94 percent reported that operational costs are currently also being covered through private means (besides the user fees). The public providers on the other hand are financed mainly through public sources: 89 percent of public providers in the data reported that set-up costs and 93 percent of public providers reported that operational costs (beyond what is covered by user fees) are covered through public means. As of today, a culture of public financing of private provision therefore does not yet exist in the sector. Public schools are mainly run with public resources and private providers depend on private

⁴⁵ Current regulation related to corporate income tax: Article 5 of the Law on Corporate Income Tax No: 5520 which was published in the official newspaper numbered 26205 on 21 June 2006. Current regulation related to personal income tax: Article 20 of Law on Income Tax No: 192 which was published in the official newspaper numbered 10700 on 6 January 1961. This article has been updated to this version on 16 July 2004. Past regulation related to these exemptions: The article 3 of Law on Private Education Institutions (numbered 625) was changed in 1983 to say that private preschools that are opened up in areas that have priority in development would be exempt from corporate and income taxes for 5 years (published in the official newspaper numbered 18081 on 18 June 1983). Later, this law was changed again in 1984 (as published in the official newspaper numbered 18472 on 28 July 1984), to say that all private preschools in Turkey would be made exempt from revenue and corporate taxes for a period of 5 years. Hence, the current incentives introduced under the current Law on Corporate Income Tax and Law on Income Tax has been in effect since 1984.

⁴⁶ Article 2 of Decree on the Change in Decree on the State’s Assistance for Investments which was published in the official newspaper numbered 28440 on 13 October 2012.

⁴⁷ Article 2 of Decree on the Change in Decree on the State’s Assistance for Investments which was published in the official newspaper numbered 28995 on 9 May 2014.

(Region 5)⁴⁸. The public support mentioned here includes tax deductions, interest subsidies and exceptions from value-added tax. Another recent incentive introduced by the government is the subsidy for children attending private schools for the school term 2014-2015. Preschools are also included in this subsidy scheme and a one-time 2,500 TL will be given to 50,000 children attending private preschools⁴⁹. These recent changes to the regulations may be expected to create incentives on the part of the private sector to increase investment in this sector.

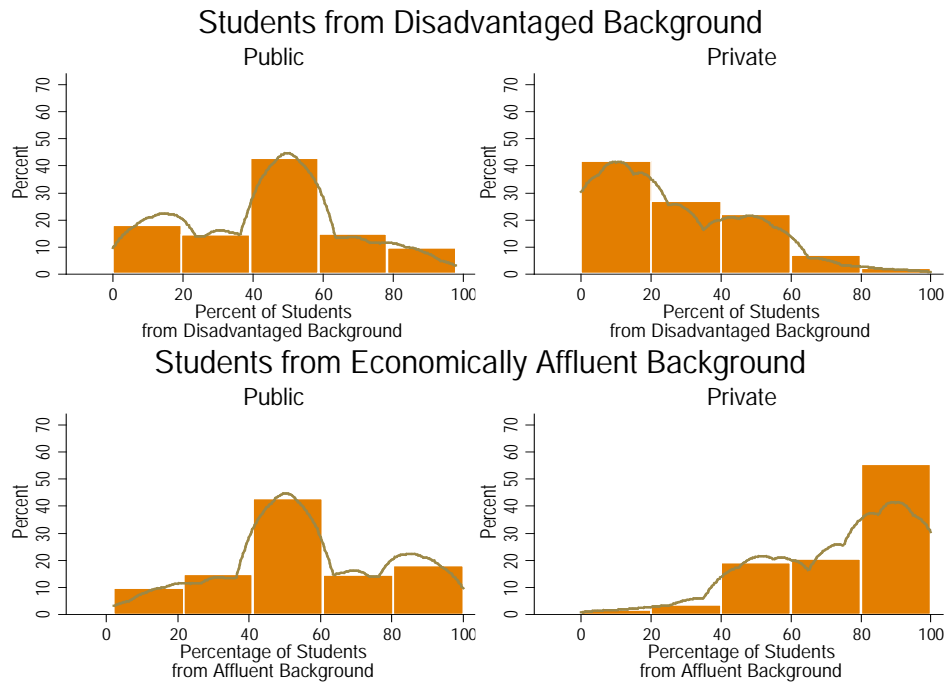
2.6 ACCESS TO SERVICES BY DISADVANTAGED CHILDREN

Given the current pricing structure of private service provision, the students from economically disadvantaged backgrounds are unlikely to be able to use private services. In the supply side provider survey, administrators were asked what percentage of children enrolled at their facility come from economically disadvantaged backgrounds, and what percent come from economically affluent backgrounds. In public schools, more than 67.4 percent of schools reported that at least 40 percent of their children come from economically disadvantaged households. For private schools, only 31.4 percent of schools reported that at least 40 percent of their enrolled children were economically disadvantaged. In fact, 55.3 percent of private schools reported that between 80-100 percent of children enrolled in their facility were from "*economically affluent*" backgrounds. About 18.0 percent of public schools reported that more than 80 % of their children came from economically affluent backgrounds in comparison (See Figure 13). So in the current system, a segregation exists in terms of household welfare and access to services through public and private provision.

⁴⁸ Provinces in Turkey are divided into 6 groups according to their socio-economic status. Region 6 is the least developed. For the provinces in each group see Decree on the Public Support for Investments which was published in the official newspaper numbered 28328 on 19 June 2012.

⁴⁹ Communique on Education Subsidy for the Students Attending Private Schools on the school year 2014-2015, published in the official newspaper numbered 29081 on 7 August 2014.

Figure 13 In private schools; children are mostly from economically affluent background, while in public schools children both from disadvantaged and affluent backgrounds are enrolled.
(Percent of students that come from disadvantaged (and affluent) backgrounds as reported by the service provider)



Source data: Turkey Child care Assessment Supply Side Dataset

In their admission procedures, a total of only 2 percent of public and private schools reported that they prioritize children from poor economic backgrounds (See Figure 14 Panel A). Most public schools reported that they admit students on a first-come-first serve basis and on the basis of their residence address and proximity to school. For private schools, interview with the parent (15 percent of providers) and the child (7 percent of providers) were also among admission requirements (along with the ability to pay private school fees).

Some of the service providers mentioned that they provide flexibility to households who have difficulty with payments during the school year. In the survey 60 percent of public schools and 70 percent of private schools reported being flexible on payments to students who had difficulty paying tuition throughout the school year. However, when asked further about what kind of flexibility they show for such households, the majority reported that they “postpone the payment date” (90 percent of private schools and 85 percent of public schools that said “yes” to the question.) and only 36 percent reported that they might provide a discount⁵⁰.

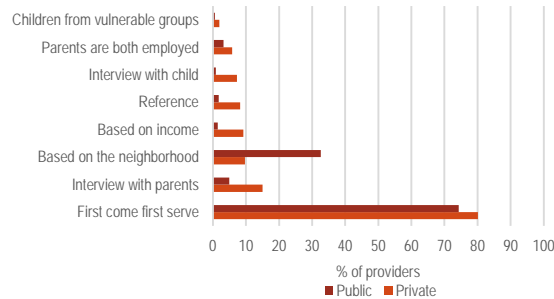
⁵⁰ These findings coming from the supply side survey are consistent with the benefit incidence results for child care provision coming from EU SILC data collected at the national level by TUIK (results reported in the next chapter in Figure 16) as well as demand side responses on unaffordability of service provision by poor and oftentimes even middle class households.

Figure 14

Panel A

In their admission procedures, less than 2 percent of public and private schools prioritize children from vulnerable groups.

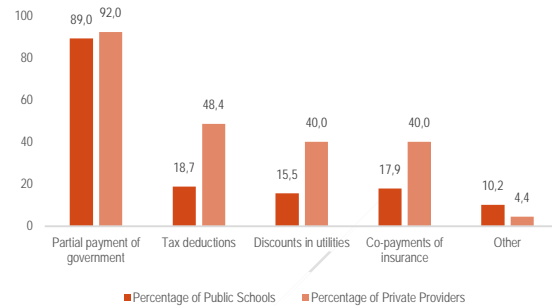
(Requirements for admission by service provider)



Panel B

To take more students free of charge, service providers state they need a partial public subsidy

(% of public and private institutions that report they would admit more children free of charge if provided a specific government subsidy)



Source data: Turkey Child care Assessment Supply Side Dataset. Note: More than one alternative may be selected in the survey by the service provider.

While not prioritizing children with need in their admission procedures, a considerable percentage of private (58 percent) and public schools (34 percent) report that they provide price reductions for children with need in the admission process. Among the schools who report that they have price reductions, 78 percent of public schools and 63 percent of private schools report making price reductions based on need, which includes making price reductions for children with low levels of monthly income, children with parents who are in a difficult employment status and children whose families receive social assistance. Although almost half of private and public child care service providers state that they have students that attend free of charge, in total an estimated 3 percent of all children enrolled in private schools and 4 percent of all children enrolled in public schools attended preschools free of charge⁵¹.

The Turkish government requires that private providers provide services to a quota of poor students free of charge. All private schools are legally required to admit 3 percent of their student body free of charge⁵². However, further public subsidies or block grants to providers based on per capita enrolments

⁵¹ When asked if they have students that attend free of charge, 47 percent of private schools answer “yes” to the question. However, when in the survey the total number of students who attend free of charge is asked to the administrators, a very low number per service provider is reported, hence making the total number of children attending these services free of charge very small (at only 3 percent of total private enrolments).

⁵² Source: Regarding service providers accredited with MoNE, Article 13 of the Law on Private Education Institutions No:5580 which was published in the official newspaper numbered 26434 on 14 February 2007 states that private providers have to provide services free of charge to at least 3 percent of their students. Regarding service providers accredited with MoFSP, according to article 19 of the Statutory Decree on The Organization and Duties of Ministry of Family and Social Policies and the Law on Changing Some of the Statutory Decrees and Laws published on the official newspaper dated 19 February 2014 with number 28918, 3 percent of the students in the private institutions should be provided services free of charge for children coming from disadvantaged families, characteristics of whom are decided according to the Regulation On The Establishment And Functioning Principles For Private Creches, Day Care Centers And Private Children’s Clubs that was published in the official newspaper dated 08 October 1996 and numbered 22781

would be necessary to expand the reach of private providers to students with need⁵³. In the survey, when the service providers were further asked what would make them receive more/any children free of charge, 92 percent of private schools stated that a partial payment by the government would be necessary for them to admit more children based on need. Tax deductions, discounts on utilities and co-payments of employment insurance schemes were also mentioned as incentives by private schools that would enable them to admit more students based on need. (See Figure 14 Panel B)

3 DEMAND SIDE ASSESSMENT

In order to assess the demand for child care in Turkey two major pieces of data collection were undertaken in the same five provinces (Istanbul, Denizli, Eskişehir, Samsun and Gaziantep) where supply side data was collected: (i) Demand Side Quantitative Household Survey (with mothers of children ages 0-6); and (ii) Demand Side Focus Group Discussions with mothers and fathers.

The household surveys were conducted in 5 cities between April 26 and May 23, 2014 with mothers of 0-6 year old children. A total of 371 surveys were completed with mothers of 0-6 year old children in the cities of Istanbul, Denizli, Eskişehir, Samsun and Gaziantep. In Istanbul 3 districts were selected to represent different socioeconomic groups: (i) One medium-high income neighborhood in Istanbul (Kadıköy), (ii) Two middle and low income neighborhoods in Istanbul (Beyoğlu and Bağcılar). Outside of Istanbul, in each city 2 central districts were selected and in these districts the neighborhoods with the highest probability of having children in age group 0-6 were visited for the household surveys. Moreover, in order to reach also to rural mothers, a village was selected in each of the four Anatolian cities.

Focus groups were held during May and June 2014. A total of twenty-five focus groups were conducted in the five selected provinces for the study. The participants for focus groups were selected according to four typologies, each with children of ages 0 to 6 years: (i) working mothers, (ii) non-working mothers and (iii) fathers in the neighborhoods, and (iv) (in provinces other than Istanbul) in rural villages - where households are primarily engaged in agriculture. The participants were determined via individual household surveys⁵⁴. A total of 199 people participated in the groups; 146 mothers and 53 fathers. Groups ranged in size from seven to nine participants and each group lasted from 110 to 150 minutes depending on the intensity of the discussion. Each group was homogenous in terms of the group typology (working mothers, non-working mothers, rural mothers or father groups), but varied according to educational attainment, household income and utilization of child care services as well as having/not having previous employment experience for non-working mothers.

In the focus groups, participants were first invited to discuss their child care responsibilities and the effects of these responsibilities on their lives and work/study decisions, then were asked to reflect on the societal norms around motherhood, child care and working women, and finally were invited to discuss their opinions about using and expectations from child care services. In this final part the participants were asked to play a simple interactive game that was called "*Design your own Kindergarten*" which sought to understand their quality

and that was prepared in light of Law on Social Services and Child Welfare Institute numbered 2828. In addition institutions that refuse providing services free of charge are charged according to Article 28 of the same regulation.

⁵³ The supply of these services in the disadvantaged neighborhoods concurrently needs to be increased in order to increase the accessibility of the children from disadvantaged backgrounds.

⁵⁴ See Technical Note 3 Technical Note 3 for details on sample and data collection.

expectations from child care services, their priorities and their willingness/affordability to pay. In some groups vignettes were used to stimulate a more lively discussion on certain topics, particularly related to child care responsibilities and norms.

3.1 WOMEN'S CARE BURDEN AND CHILD CARE RESPONSIBILITIES

The majority of the child care burden falls on the shoulders of women in Turkey. In the household survey collected, women were asked who is mainly responsible in their household for a number of tasks related to child care⁵⁵. More than half of the mothers indicated that it is "Always" them who do these tasks (which include dressing the children, putting the children to bed, staying at home and taking care of the children when they are ill and taking children to and from school) in the household. Only for the tasks related to helping children with their homework and playing with children – did they report getting more help from other members of the household or other individuals.

Employed women, receive more support at home for child care tasks. A simple support index was constructed to look at the averages of these questions on "support", the answers of which range between 1 and 5 (1: always me, 5: always someone else). On average women get a support index of 1.8, and employed women get a slightly higher support index (2.2 out of 5) compared to their non-working peers (1.5 out of 5). In other words the answer "Always me" appears less often for the questions related to tasks about child care for employed women⁵⁶. Employed women are also slightly more likely to agree that grandparents should look after their grandchildren if the parents of these grandchildren are unable to do so, with 64 percent of employed mothers agreeing with the term compared to 57 percent of the mothers who are not employed.

However, employed women still carry a "double-shift" in terms of work and carrying out household chores and care activities. Qualitative analysis of focus group discussions show that for employed women, having support mostly resolves the problem of child care during working hours. However the burden of child-care and house chores still rest predominantly on the mothers both in the evenings and in the weekends. As described elaborately by an employed mother in focus group discussions:

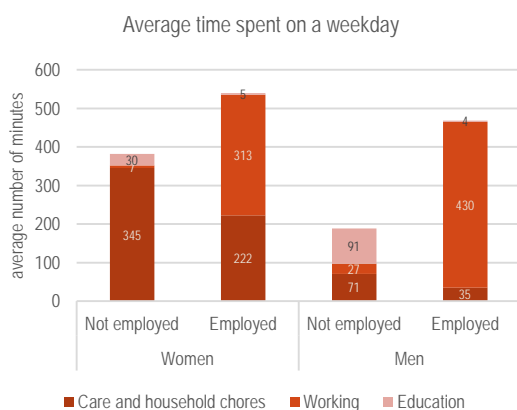
"On one hand [being a teacher] I have to read and grade the papers. Then there are the house chores awaiting me – ironing, doing the laundry, cleaning... Then there are my children, and my husband who waits for my attention. [And] I am constantly worried about whether or not I am able to live up to and balance all my responsibilities." (Working mother, 37, university educated, Denizli)

⁵⁵ These tasks are dressing the children, putting the children to bed, staying at home and taking care of the children when they are ill, playing with the children, helping children with their homework and taking children from school or from leisure activities.

⁵⁶ Note that women with higher levels of education also report getting more support with child care tasks in the household, so at some level higher educated and employed women are also able to negotiate/bargain within the household for more support around child care, likely as a result of increased agency.

The findings on the “double shift” experienced by working women is also confirmed using national level Time Use Statistics. The Time Use Survey (2006) in Turkey collects data on the direct time spent on care activities through daily activity journals. Calculations⁵⁷ using Turkey Time Use Survey 2006 show that on

Figure 15 The care burden is mainly on women, and employed women are not relieved of household responsibilities – hence they experience a “double shift”



Source data: Turkey Time Use Survey (2006) as reported by Aran and Aktakke (2014)

a weekday women spend on average 5 hours and 16 minutes a day doing household chores⁵⁸. This average is 5 hours and 45 minutes for women who are not employed while it is 3 hours and 42 minutes for employed women, hence almost 2 hours shorter on average. However, although employed women spend less time in overall household chores (including child care and elderly care) compared to women who are not employed, when the average time spent in work and household chores is added up together it turns out that in total employed women work even longer hours (See Figure 15).

The multiplicity of responsibilities on their shoulders and long working hours make it challenging for many working mothers to balance and juggle work and household responsibilities, despite the support some receive. In the focus groups the mothers described

being a “working mother” often as being “very difficult” and “stressful,” “and requiring “sacrifices” (such as having little time for sleep or rest), yet at the same time a necessity in today’s economic realities:

“Unless we work, it is impossible to pay for the needs of neither the house, nor the children. But this has to be like this [there is no other way]. I have to bear with the difficulties [of being a working mother] and make compromises as a mother, so that I can accomplish something.” (Working mother, 34, basic educational attainment, Gaziantep)

When women are not employed in the labor market, they often times are the main providers of care with less support from family members. This is also not a simple task and being alone in providing care for children without support has important negative implications on the quality of life for the women. In focus group discussions many women explained that having no/little support severely restricts their mobility: that they very rarely can leave their homes, spend their days with care and house work and have no time or opportunity to socialize with friends.

“It is still difficult to take care of two very young children and [with no one to help me] I just go mad sometimes! At the end of the day I’m looking forward to someone, like my husband, coming home so that can vent my anger on him (Laughs).” (Non-working mother, 36, basic educational attainment, Samsun)

⁵⁷ Findings are coming from the Turkey Time Use Survey (2006) and author’s calculations.

⁵⁸ Household chores include: Food management, household upkeep, laundry, ironing etc., gardening and pet care, construction and repairs, shopping and services, household management, child care, help to an adult member (adult care).

Furthermore some also explained that bearing all the house and care responsibilities by themselves and being alone with the children at home all day long hurts not only their own psychology but also their relationship with their children:

"It does not feel good to be at home all day with the child; you are in a constant state of struggle and fights, it is very stressful and ruins my psychology. And it does not end there, there is constant housework to be done, no matter whether you are a working or a non-working mother. And having to deal with the child with all this work load feels very overwhelming." (Non-working mother, 30, university educated, Istanbul)

3.2 CURRENT UTILIZATION OF CHILD CARE

The current level of utilization for child care and preschool services in Turkey is low, and the distribution of utilization across income groups is regressive. As analyzed in the previous section, Turkey's gross enrolment rate for pre-primary level (29.5 percent) compares unfavorably with other OECD countries where enrolment rate average is at 80.6 percent. The current incidence of utilization of services is also quite regressive, particularly for private services - and only the richer deciles benefit from private child care services. An analysis of EU Survey of Income and Living Conditions (2012) indicates that while of the children (aged 3-5) in the poorest per capita income decile, 16.4 percent benefit from preschool services, and 0.4 percent benefit from day care services; these levels are 28.4 percent and 31.6 percent respectively for the same group of children in the richest decile⁵⁹ (See Figure 16 Panel A).

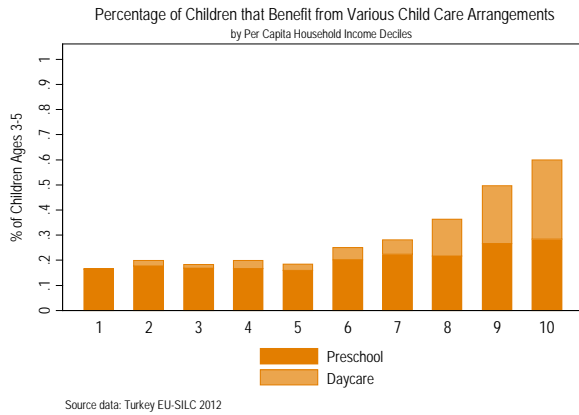
Consistent with national level utilization rates, in the demand side survey collected for this report, the majority of women (76.5 percent) in the sample of mothers with children ages 0-6, reported that they do not currently use center-based child care or preschool services. Among the 23.5 percent who currently report using center based care, the majority (18.9 percent) reported using public centers and only a small minority (4.6 percent) reported using private care centers and preschool facilities (See Figure 16 Panel B).

Use of center based care, and private care in particular, increases, with the education level of the mother, as well as with the household per capita income. In the sample of mothers of 0-6 year old children, less than 20 percent of women with basic educational attainment or less, utilized public services, and none of these women reported using private facilities. Among women with high school degrees a similar percentage used public center based services, and an additional 6 percent reported using private facilities. In the sample, university educated women were most likely to be using center based care: a total of 42 percent of university educated mothers reported using center based care (See Figure 16 Panel C) -25 percent of university educated mothers used public center based care services and 17 percent reported using private services. Use of private services is only observed among households with a certain level of per capita income, about 10 percent of households with over 600 TL /capita income have reported using private center based services, and 3 percent of households with per capita income 300-600 TL /month have reported using private services, while for households with less than 300 TL/per capita income there are no reported incidences of private service utilization (See Figure 16 Panel D).

⁵⁹ EUSILC 2012 questionnaire lists these services as "preschool" (*anaokulu/okul öncesi*) and "daycare" (*Gündüz Bakım Evi/kreş*) services . It is not possible to disentangle in the data public and private provision of these services.

Figure 16
In Turkey, child care and preschool utilization is low and regressive

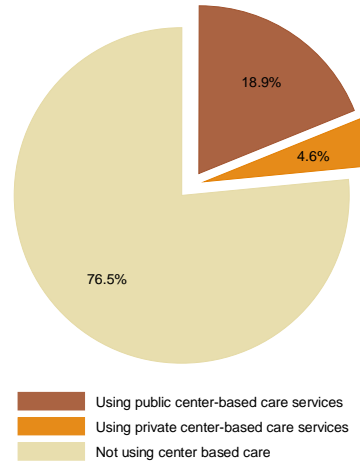
PANEL A



Source data: EU SILC 2012, and author calculations

Most households in the household sample of data do not use center based care...

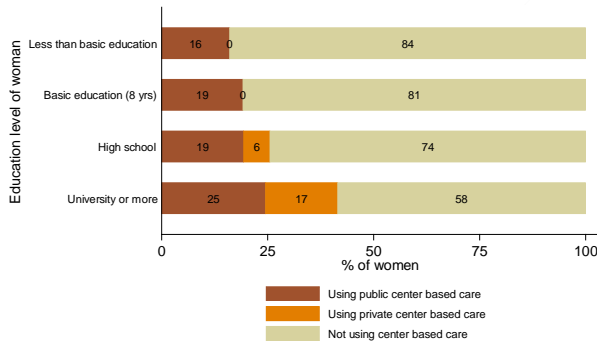
PANEL B



Source data: Turkey Child Care Assessment Demand Side Household Data Set

...use of center based care, and private care in particular, increases with the education level of the mother..

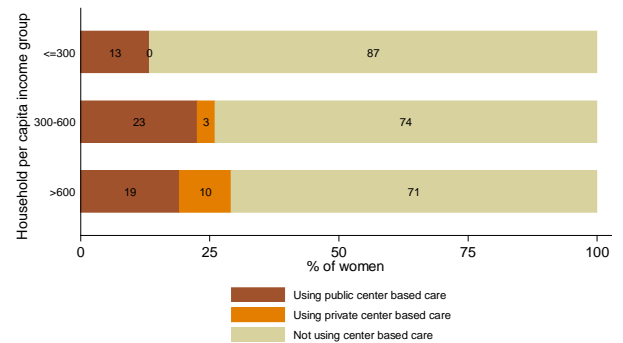
PANEL C



Source data: Turkey Child Care Assessment Demand Side Household Data Set

.. and household per capita income

PANEL D



Source data: Turkey Child Care Assessment Demand Side Household Data Set

Furthermore preferences for use of care services among the survey respondents change also according to the employment status of the mother. While the use of public centers are close in percentage among employed and non-working mothers (17 percent and 20 percent respectively), in the sample it is the employed mothers who are most likely to be using private care centers (Of the private care center users 82 percent is employed). Children of full-time employed mothers are mainly cared for by a family member (58

percent of the time⁶⁰); whereas the majority of the part-time employed and non-working mothers report taking care of children themselves (67 percent and 77 percent of the time respectively) – although 20 percent of part-time mothers also get support in child care from family members. Finally it is observed that the use of private nannies (“*bakıcı*”) is very limited; almost exclusively only full-time employed mothers use nannies for the care of their children and this is the case for only 8 percent of the employed sample of mothers.

3.3 CURRENT UNMET DEMAND FOR CHILD CARE

Although utilization is low, there is high unfulfilled demand for center-based care services. While mothers currently using child care services constitute a minority among focus group participants, focus group discussions showed that there is also significant unmet demand for child care services. Among employed mothers, 50 percent of those currently not using center based services stated a willingness to use these services. Demand is high even among mothers who are not using child care, have low educational attainment and/or household income (See Table 5). In the low income group of women, 43 percent of mothers stated a willingness to use center based services and among women with less than a high school degree this level was 40 percent. Overall 61 percent of mothers in the sample and focus groups stated that they either are currently using or would like to use center based care and preschool services.

Table 5 Current Utilization of and Willingness to Use Child care Services

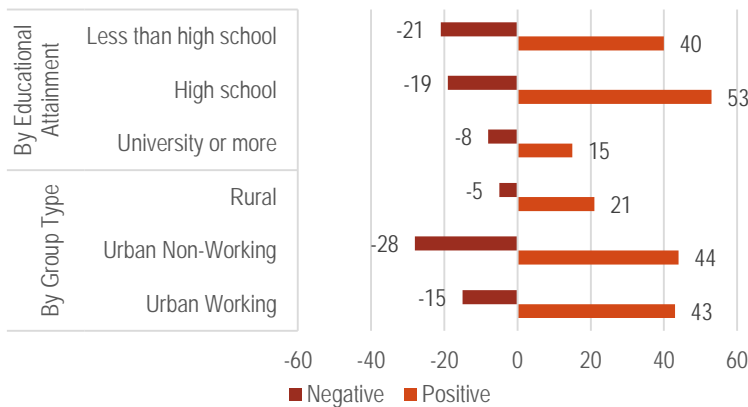
	Current use of center based care	Currently not using center based care, yet stated willingness to use in FGDs ⁶¹	Total Estimated Demand
	(a)	(b)	(a+b)
Employed	22%	50%	72%
Not Employed	26%	31%	57%
Rural	18%	29%	47%
Income >600 TL	23%	34%	57%
Income 300-600 TL	35%	33%	67%
Income <300 TL	15%	43%	57%
University or more	29%	19%	48%
High school	30%	42%	72%
Less than high school	14%	40%	54%
Overall	23%	38%	61%

Source data: Turkey Child Care Demand Side Household Data and Focus Group Discussions

⁶⁰ These values are for the first child recorded in the survey, aged 0-6.

⁶¹ Column b represents the number of mothers who stated either that they are willing to send their young children to kindergartens, or that they wish they could have sent their children to kindergartens but could not due to their current circumstances. Methodology for data and calculations in the table are presented in detail in Technical Note 12.

During focus group discussions, both mothers (and fathers) displayed positive attitudes and experiences with regards to use of center-based child care and preschool services. The positive and negative mentions of child care services were coded following the focus group discussions⁶². Overall, focus group participants' positive-attitude mentions about the care centers (kindergartens) significantly exceeded negative-attitude mentions. The ratio of positive to negative mentions was the highest among rural mothers (4.20), followed by employed (2.87) and not employed mothers (1.57) (See Figure 17).



Source data: Turkey Child Care Study Focus Group Discussion Transcripts

Qualitative analysis of the attitudes shows that these positive and negative attitudes correspond to two distinct categories: Positive attitudes fall under the category of motivational factors (and incentives) and negative attitudes fall under the category of conditional factors (and barriers). Motivational factors refer to those factors, observations, beliefs that encourage parents to send their children to care centers; such as the benefits of using care centers to the child or to the mother. Conditional factors are those in the absence of which the parents would not or cannot send their children to care centers; such as factors related to quality, security and health. These factors are discussed below.

3.3.1 DEMAND FOR CHILD CARE BY AGE GROUP

The lack of wide availability of care for children in age group 0-4 is a concern among mothers who would like to use services for children in this age group. Overall mothers underlined in focus group discussions that public schools provide services mainly for the ages of 5-6 and private care centers provide services for mainly 3-6 year olds. Services for younger ages (0-3), such as nurseries or crèches are either completely absent or the few that exist do not meet mothers' expectations in terms of affordability.

Public preschools (be it in primary schools or independent) offer services mainly for children ages 5 and above. Few participants stated that in some cases enrollment by 4 year olds is also accepted at these public preschools⁶³. However, they explained that this is mostly an exception and is not systematic, and depends on conditions such as having open vacancies for 4-year-olds once the enrollment of all the 5 year-olds are complete. Nevertheless, the general feeling among mothers employed and unemployed alike is that care services by public centers/schools are available only for 5 year olds.

⁶² Methodology for calculations provided in Technical Note 13.

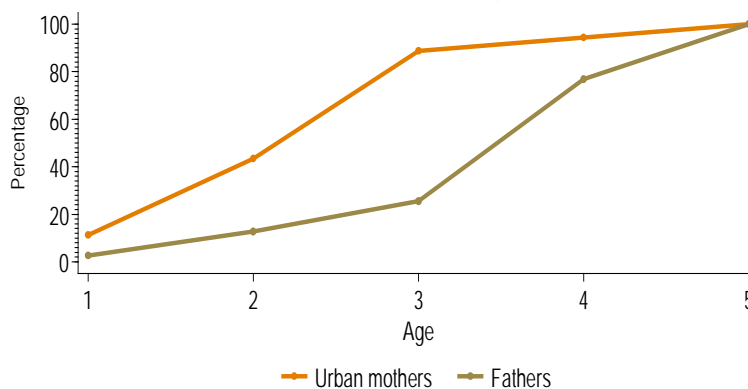
⁶³ The exceptions mentioned for this in groups were the care centers set up by municipalities which also accept 4-year olds. However mentions of this were very few, and only in Istanbul.

Private preschools offer services for children ages 3-6, however high costs are a barrier for the utilization of these services. Participants in FGDs reported that private schools accept enrolment from 3 years onwards. They explained that besides age, self-sufficiency and independence in undertaking basic needs such as having toilet training are required for enrollment in most (but not all) care centers.⁶⁴ Services for this age group is welcomed by participants, however for many, high monthly prices is a barrier against using private care centers.

Child care services for 0-3 year olds (nurseries/crèches) are almost non-existent in the nearby neighborhoods of focus group participants. For instance, in Denizli, Samsun and Eskişehir only 3, in Gaziantep 8 and in Istanbul 22 child care centers serve children in this age group. The very few examples of day care services for this age group that were discussed were very problematic in terms of meeting the quality expectations of mothers (see section 3.6.2 on quality): there seems to be some level of anxiety among mothers associated with sending very young children to day care centers: for example one mother from Gaziantep mentioned that *"the personnel were so few and inexperienced that babies/children would cry and nobody would take care of them, or attend to their needs"*. Whether this type of anecdotal evidence reflects quality standards of day care facilities would need to be assessed carefully – though it is important to note that these types of fears and anxieties were reflected in FGDs.

Figure 18 Perceptions about proper (earliest) age to use child care services among urban groups (assuming the mother is working and has no other means of child care support)⁶⁵

(Cumulative percentage of urban mothers and fathers who think that it is acceptable for a working mother to send her child to center based care for each specified age level)



Source data: Turkey Child Care Study Demand Side Focus Group Discussions

expensive in terms of costs, but also participants' own observations (and rumors they have heard) about them are mostly very negative, so some mothers mentioned they cannot imagine using these services with comfort.

For many mothers, lack of quality crèches/nurseries for particularly of age 0-3 is a barrier for them to (re)join the workforce, yet the demand for child care for children younger than 3 is also quite low. The majority of the FGD participants believed that younger children are better cared for at home and preferably by their mother. Furthermore, lower demand in comparison to higher age groups is also related to the lack of supply of quality nurseries. Private nurseries in neighborhoods are not only very few in number or

⁶⁴ If the child is a few months younger than 3 but is competent she can also be accepted for enrolment. This also suggest that there are no nursery services being offered in these mentioned service providers.

⁶⁵ During focus group discussions participants were asked to share their thoughts on the earliest age of the child when she can start attending kindergarten and they were asked to raise their hands to vote if it was "acceptable" to send children to center based case for each age level.

The accepted norm for earliest age for sending children to preschool is age 3 for children of working mothers – but perspectives on earliest age to send children to center based care varied by mother’s working status and by respondent’s gender. The perspectives of parents about the earliest accepted age a child can attend a care center varied among fathers and mothers, and depended on whether they assume that the child’s mother is employed or not. In both cases mothers believed that children can be enrolled in care centers at an earlier age in comparison to fathers.

For all groups the general trend is that if the mother is at home and not working, then the child should be raised at home until the age of 3; demand for child care for those younger than 3 years old was extremely limited. For many of the mothers in FGDs (50 percent) the earliest age to start kindergarten (if the mother is at home) was 3. While for 43 percent of the fathers this minimum age was 5. When asked for the case of a working mother in the absence of other care support mechanisms, a large percent of mothers (45 percent) still believed the earliest age to send children to center based care is 3, however the number of participants who stated the ages of 1 and 2 as the earliest age also increased significantly (see Figure 18). Overall 88 percent of the mothers and 29 percent of fathers believed that in principle 3 year-olds can attend kindergartens if the mother is working and does not have other options for care. The majority of fathers believed age 4 was the minimum acceptable age to send children to preschool, and the cumulative percent of fathers who agreed it would be acceptable to send children to preschool at the age of 4 was 77 percent. So overall it is observed that there is an accepted norm for the utilization of child care for children (ages 3-6) of working mothers -particularly among women- while the demand for care by fathers was lower and only started at the later age of 4. The demand for care for 0-3 year old children is quite weak among both mother and father groups.

Consistent with the above finding, when the discussions on the positive and negative dimensions of using care services for certain age groups were coded, it was observed that in all groups participants were significantly positive about using care services for 3-5 year-olds and negative about using care for 0-3 year olds. When

Table 6 Parents mentions about the earliest age to use care centers in focus group discussions⁶⁶

(Number of positive and negative mentions, by percentage of group)

	Age 0-2		Age 3-5		Min 5	Total
	(Care intensive)		(ECD intensive)			
	Positive	Negative	Positive	Negative		
Employed mothers	17%	20%	43%	13%	7%	100%
Not-employed mothers	14%	17%	43%	17%	10%	100%
Rural mothers	5%	30%	45%	10%	10%	100%
Fathers	11%	30%	39%	4%	18%	100%
SUBTOTAL	13%	24%	42%	10%	12%	100%

Source data: Turkey Child Care Study Demand Side Focus Group Discussions

center based care for 0-3 year old children was discussed, only 13 percent of mentions were coded as positive mentions, and 24 percent of mentions were negative mentions on the topic. By contrast, mentions of center based care for 3-5 year olds was mainly positive: 42 percent of mentions could be coded as positive mentions and only 10 percent of mentions were negative. These results were robust to focus group types and similar patterns were observed in groups of urban working and non-working mothers, rural mothers and urban fathers

⁶⁶ More details on the methodology for coding some of the findings from FGDs related to the minimum age for utilization of services have been provided in Technical Note 14.

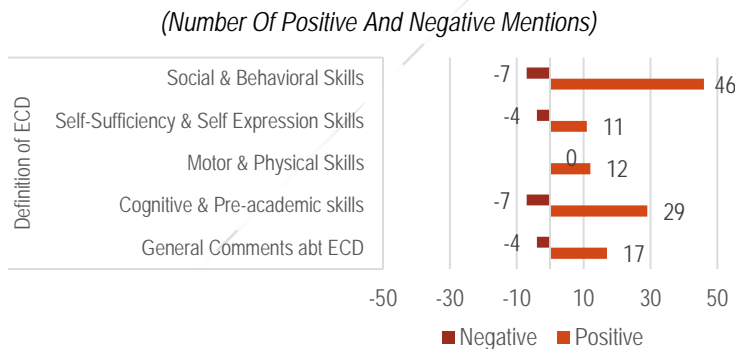
groups. Only 12 percent of total mentions related to minimum age to attend center based care were positive mentions about the minimum age being 5. In other words, most of the participants in focus groups displayed a positive attitude to children starting with center based care earlier than age 5, and the most positive mentions on the topic were collected related to children starting to use center based care at an age between 3-5.

The perceptions of parents about the “minimum acceptable” age to use care services are influenced by both parents’ understandings of children’s needs and on their observations and evaluations of current care service provisions on whether these needs can be met. In groups it was observed that for 3 year old and younger children it was the “conditional factors” (discussed above) such as safety, security and healthy emotional and physical development of the children that were the most emphasized. For children older than 3 it was the motivational factors (benefits) of using care, such as the socialization and cognitive & behavioral development of the child that was discussed more extensively, as well as benefits of centers for future success at school.

3.3.2 POSITIVE ATTITUDES FOR USE OF CHILDCARE CENTERS

The benefits of using care centers were discussed in the focus groups more in terms of its benefits for the children, particularly with regards to early childhood development. When asked why they would use care centers (kindergartens), the two most common benefits stated by mothers were (i) “the socialization and discipline of the child” (in social and behavioral skills) and (ii) “preparation for primary school education” (in cognitive and pre-academic skills) (See Figure 19).

Figure 19 Socio-Behavioral and Cognitive Skills mentioned by mothers as positive aspects of center based early childhood education and care



Source data: Turkey Child Care Study Demand Side Focus Group Transcripts

areas become more insecure for and unfriendly to children. Many mothers across different group types said they “cannot allow their children to play out in the streets, in fear of traffic accidents or ill-intentioned individuals”. Non-working mothers explained that “the burden of their housework also keeps them from taking their children to parks, etc”. As a result, the children are stuck at home with the mother or the

Social and Behavioral Benefits to Children:

Socialization of the child is an important need, benefit and motivation to use care centers and was voiced by both urban and rural mothers alike. Particularly for the urban mothers, letting children play out in the streets with friends from the neighborhood, (like they themselves used to do as children) is becoming increasingly more difficult as urban

grandmother/care minder all day long, and it is only in the weekends that parents can take their children to parks and other activities.⁶⁷

*“Education in early childhood is essential, I see it from my older son. You can’t raise a child at home. ... My mother-in-law for instance, she can take good care of my child but what can she teach her?”
(Working mother, 34, high school educated, Istanbul)*

From the mothers’ perspective, the child spending all day at home can be harmful to the child in several ways:

- Children cannot engage in enough physical activity that is required for their physical and psychological development (mostly urban mothers);
- They do not socialize with other children and become too individualistic, not being able to learn “how to share” (urban and rural mothers);
- They spend too much time watching television or playing computer games, which prevents them from socializing (urban and rural mothers).

It is in this context that using care centers is seen as a benefit to the children. Socializing with other children of similar age and learning cooperation and sharing are frequently stated as the observed –and/or desired– benefits from children’s attendance in care centers and are also linked by participants to an *improved self-confidence* they observe in their children that they themselves are not be able to provide:

*“I thought it would be much better for my children to attend a kindergarten than spending low-quality time with me at home all day. Often we quarrel; our relationship gets tense. But there they would have a good time and would be raised more consciously, more proficiently; if we could afford it...”
(Non-working mother, 39, high school educated, Istanbul)*

“Mother is not enough by herself. Kindergarten helps children boost their self-confidence and being in a social group is good for child’s development.” (Non-working, 44, basic educational attainment, Gaziantep)

Discipline, teaching children habits and proper behavior are also among the frequently stated benefits/motivations. Many mothers (and some fathers) described having difficulties in disciplining and educating their children and reported improved behavior, habits and attitudes in their children after enrollment in a care centers (such as eating, washing hands, sleeping, brushing teeth, as well as getting along with other children, controlling self and getting rid of spoiled behavior).

“When I ask him to wash his hand, he resists. But he learns and follows the rules in the kindergarten; attains good habits. I am also trying to establish a system at home, a discipline yet in kindergarten they do this better.” (Non-working, 28, high school educated, Istanbul)

*“I’m not so much in favor of parents taking care of their children only by themselves. After a certain age they should attend kindergartens for they learn discipline there. Otherwise they get spoiled.”
(Father, 34, basic educational attainment, Istanbul)*

⁶⁷ Some mothers and fathers also compared their childhood to that of their own children and drew attention to the role of changing family structures (fewer number of children per households and distances between relatives’ homes) in terms of reduced opportunities for children’s socialization.

Furthermore care centers were specifically praised for their benefits on children with special behavioral needs, such as those who are hyperactive, aggressive or introverted/shy.

Cognitive and Pre-academic Benefits to Children:

Cognitive and pre-academic development of the child is the second most mentioned benefit in the focus groups. In this context, mothers talked about benefits of care centers on children's talking/language skills (such as ability to express herself better), thinking skills, pre-literacy and pre-numeric skills and basic musical and artistic skills. Some mentioned that children talk and ask a lot of questions particularly after the age of 3 and being with some trained staff is more beneficial for their cognitive development.

Cognitive and pre-academic development during early childhood is perceived by many mothers to be also strongly influential on later educational success. Many mothers expressed their belief that care centers prepare children for their future education by laying down a strong foundation and therefore might have long-term implications for success at school.

"I wish I had been able to send my youngest to kindergarten too. His elder siblings went in the past, and yet we couldn't send him because we couldn't afford it. And now he is doing worse than his siblings at school. His grades are lower. He would have been more successful had he attended kindergarten." (Rural, 35, basic educational attainment, Gaziantep)

In addition to cognitive skills mentioned above, mothers stated that the care centers help children in later school life by teaching them how to behave towards a teacher, getting them used to class environment (both linked to socio-behavioral development); and teaching them how "to hold a pen" (linked to fine motor skills development).⁶⁸

Overall, mothers' (parents') evaluation of the benefits of the care centers depends not only on the perceived benefits of these centers on the child, but also the quality of care that is available (in terms of costs, location, hours) for these mothers and on their evaluations of their own pedagogic and educational capabilities and time resources vis-à-vis these services. In other words, if the mother believes that the quality of education at the care center that is available to her is less than what she can provide her child with, despite mothers' general beliefs about the benefits of care centers and early childhood education, the decision to use these services are negative (please see Section 2.4 on quality of care).

Perceived Benefits to Mothers:⁶⁹

In focus groups some mothers mentioned that using care centers would also benefit them in several ways. First, 43 percent of the women in the not-employed groups and 35 percent of those in the rural groups stated that availability of affordable and quality childcare centers would/could enable them to work so that they could improve the family income. In these same groups others stated that childcare centers would allow them to have quality time for themselves and ease the burden of their housework responsibilities. In the same spirit,

⁶⁸ These views on the benefits of care centers on children's school life are mostly attained by mothers' own experiences and observations; for example some participants shared their observations about how their children differed from each other.

⁶⁹ The discussion here outlines how mothers discussed the benefits of care centers for themselves in focus groups. A more comprehensive analysis of benefits of care services for mothers, particularly in the context of FLFP is provided in Section 3.4.

few stated that using care centers and having some time for themselves could also improve the quality of their relations with their children by improving their own morale and tolerance:

"It is important that we have quality time for ourselves, some time to rest and feel good. Because then we can also make our children happier. We can take better care of them if we take good care of ourselves." (Working mother, 36, University graduate, Denizli)

Finally, some also stated that as mothers they feel insufficient in understanding the needs and wants of their children sometimes and emphasized the pedagogical training of the teachers and staff in the care centers in coming to aid and making up with regards to such challenges:

"I wanted to work and earn money especially to be able to send my child to the kindergarten. I feel like I am not very capable of mentoring him. He is very energetic. I can't orient him constructively, and this bothers me. I wanted to send him to a kindergarten so that he would get a good education." (Non-working mother, 33, high school graduate, Istanbul)

SUMMARY BOX: POSITIVE ATTITUDES / MOTIVATIONAL FACTORS & INCENTIVES

Social & Behavioral Benefits to Children

- Socializing with other children of similar age, making friends
- Learning cooperation and sharing
- Improved self-confidence; overcoming shyness
- Developing self-sufficiency skills and adopting daily habits (such as eating, washing hands, sleeping, brushing teeth); getting disciplined
- Learning how to behave in relation with others (such as how to get along with other children, controlling self and getting rid of spoiled behavior, learning how to talk to a teacher)
- Added benefits of care centers on children with special behavioral needs, such as those who are hyperactive, aggressive or introverted.

Cognitive and Pre-academic Development Benefits to Children

- Improving talking/language skills (such as ability to express self better)
- Improving thinking and abstraction skills
- Developing pre-literacy and pre-numeric skills; getting prepared for primary school education
- Developing fine motor skills (such as "holding a pen well")
- Developing basic musical and artistic skills.
- Getting used to class environment and learning required behavior for upcoming education years; better adapts to school life in the first year in primary school

Benefits to Mothers

- Enable mothers to work, by taking care of children during work hours
- Aid families in educating and understanding their children
- Enable mothers to have quality time for themselves and ease the burden of their housework responsibilities
- Enable non-working mothers to spend more quality time with their children by improving mothers' own morale and tolerance

3.3.3 NEGATIVE ATTITUDES FOR USE OF CHILDCARE CENTERS

While the motivational factors encourage parents to use child care centers, the ultimate decision of whether or not to use care centers depend on the satisfaction of (i) parents' concerns/perceptions about children's physical and emotional safety and security and (ii) conditions that are related to the availability of facilities. When these conditions are not met, the parents express negative attitudes towards use of care of services.

Barriers to use of care centers:

In all groups, lack of affordable and quality childcare centers was discussed as a barrier to using childcare. Particularly costs of quality childcare was discussed as a major issue and a concern (See section 3.7 on costs and willingness to pay). The barriers to using care centers that were mentioned in all groups include:

- Lack of childcare centers close to home;
- Concerns about safe transportation of children to centers/schools;
 - For urban groups service buses not having care staff on board⁷⁰;
 - For rural groups care centers being located by a main road/highway;
- High costs of childcare centers for children younger than the age of 5 (i.e. availability of public affordable care centers for mainly 4-year-olds).
- Service hours and days that do not meet the needs of working mothers (for working mothers and mothers willing to work)
- Lack of quality childcare centers for children younger than the age of 3 (for working mothers and mothers willing to work)

Conditions and concerns about children's physical and emotional safety:

In the focus group discussions ensuring physical and psychological/emotional safety of children emerged as the primary determinant of deciding whether or not to and when to use childcare centers, and was discussed in its many dimensions in all groups.

First, the beliefs that children need to grow up with their mother and/or in a home environment until a certain age for their social and emotional well-being, determine parents' decisions on whether to use and when to use childcare centers. Many mothers believe that children need to be cared for by their mothers, and if not, in a home environment, preferably with a grandmother until the age of 2 or 3 (and sometimes 4). On one hand this is related to emotional care needs of children, which is considered to be very high during particularly the first 2 years.

On the other hand it is also related to young children's physical care needs and their dependency on adults. Children's competency in self-sufficiency and self-expression was therefore among the primary conditions of using care centers and were discussed in all focus groups. Many parents believe

⁷⁰ In fact this issue is addressed in the regulations. In the subparagraph (z) of Article 18 of the Regulation On The Establishment And Functioning Principles For Private Creches, Day Care Centers And Private Children's Clubs that was published in the official newspaper dated 08 October 1996 and numbered 22781 it is stated that "(Extra:RG6/7/201127986) A personnel should be present in the service bus to keep the children in order and help them get on and get off." Yet this was still mentioned as an issue by the mothers.

that children need to have attained basic language and self-expression skills in order to attend childcare centers. Self-expression skills matter for parents because then the children can express their needs to the staff/teachers at the centers (such as being hungry, or needing to go to the toilet), and also could consistently inform parents of their daily activities and tell parents if they are having a good time or if something went wrong. Self-sufficiency, or in other words having had toilet training and being able to eat by themselves, is another condition for some parents. They have explained that it will be safer and healthier (both physically and socio-psychologically) for children to attend care centers once they have gained these skills. Overall the general agreement was that children will have achieved these skills by 3 or 4, however some mothers also pointed out that the age would depend on the child.

In addition, the quality of the care centers particularly in relation to how well their services serve the safety and security needs of the children significantly influences parents' decisions on whether or not to use care centers. Some of the most influential questions that would be initially considered by parents include:

- Is the center located in a safe place? Is transportation (by foot or vehicle) safe?
- Is there enough number of personnel to watch over children to ensure their safety?
- Is there enough number of well-trained personnel and to ensure if children's basic needs (eating, toilet, care etc.) are met? Is there a risk of children being neglected?
- Are the minimum hygiene conditions met?
- Are there mechanisms to prevent bullying of young children by older children?
- Are the personnel treating the children well? Is there the risk of maltreatment?

It should be noted that, the child related and the service related perceptions about safety and security conditions are mutually constitutive and help define each other. In others words, mothers' perceptions of earliest age to use care services are informed by their perceptions of the service quality that is available to them in their environments.

SUMMARY BOX: NEGATIVE ATTITUDES / CONDITIONAL FACTORS & BARRIERS

Child-related conditions and concerns about children's physical and emotional safety:

- Is the child old enough in terms of her emotional needs?
- Is the child old/competent enough to take care of her basic needs? Is she self-sufficient or mostly dependent on adults? (such as having had toilet training and being able to eat by themselves).
- Has the child attained basic language and self-expression skills? Can she verbally express her needs or problems to others? (such as being hungry, or needing to get to the toilet, or having encountered a problem)

Care-center related conditions and concerns about children's physical and emotional safety:

- Is the center located in a safe place? Is transportation (by foot or vehicle) safe?
- Is there sufficient number of personnel to watch over children to ensure their safety?
- Is there sufficient number of well-trained personnel and to ensure if children's basic needs (eating, toilet, care etc.) are met? Is there a risk of children being neglected?
- Are the minimum hygiene conditions met?
- Are there mechanisms to prevent bullying of young children by older children?
- Are the personnel treating the children well? Is there the risk of maltreatment?

Barriers to use of care centers:

- Lack of child care centers close to home;
- Concerns about safe transportation of children to centers/schools;
 - For urban groups service buses not having care staff on board;
 - For rural groups care centers being located by a main road/highway;
- High costs of child care centers for children younger than the age of 5 (i.e. availability of public affordable care centers for mainly 4-year-olds).
- Service hours and days that do not meet the needs of working mothers (*voiced by working mothers and non-working mothers willing to work*)
- Lack of quality child care centers for children younger than the age of 3 (*voiced by working mothers and non-working mothers willing to work*).

3.4 BENEFITS OF CHILD CARE TO MOTHERS & FLFP

With a low female labor force participation, one of the important policy questions in Turkey is whether the expansion of affordable and quality child care might increase women's participation in the labor force. The absence of affordable and quality child care is often mentioned as one of the main contributors to low female labor force participation in Turkey (Hentschel, 2010 and Uraz et.al 2010). Seen in this light, the expansion of affordable child care has potential as a policy lever for increasing participation, as will be discussed below.

While Turkey's female labor force participation has been increasing in recent years, it remains low compared to other OECD countries. Female labor force participation for women aged 15+ is 30.8 percent in Turkey as of 2013, according to TUIK- this level is low compared to the OECD average of 51.0 percent and the Europe and Central Asia average of 50.7 percent⁷¹. If Turkey aims to achieve its growth aspirations and goal to enter the top economies of the world by 2023, increasing the contribution of women to the economy will need to be one of the main pillars of economic and social policies in the coming decade. The 10th Development Plan of Turkey, covering the period 2014-2018 also states as an aspiration increasing female labor force participation to 34.9 percent by 2018 – through active labor market policies⁷².

Labor market attachment is low among women and women -who become mothers- often leave the workforce never to return. Of the currently non-employed women in the household survey sample, 45 percent previously worked but decided to leave the labor force. Furthermore most of these women (about 71 percent), reported leaving the labor force specifically "*due to child care responsibilities*". The numbers of women who are still working and did not take any leave is similar among women of all education degrees, however it is more likely for women to have higher labor market attachment -and come back to work- if they have a university degree. Average number of years for taking leave is also lower for women with university degree with 1.6 years, while for example for women with high school degree it is on average 3.4 years. Focusing on women who left work at some point, we see that a high percentage of these women with low education degrees who has once left the labor market due to child care responsibilities did not come back again. On the other hand for women with university degree come back rate is very high, 80 percent of all mothers in the sample with university degrees who left work due to some reason (child care or other) is back to work now (See Figure 20).

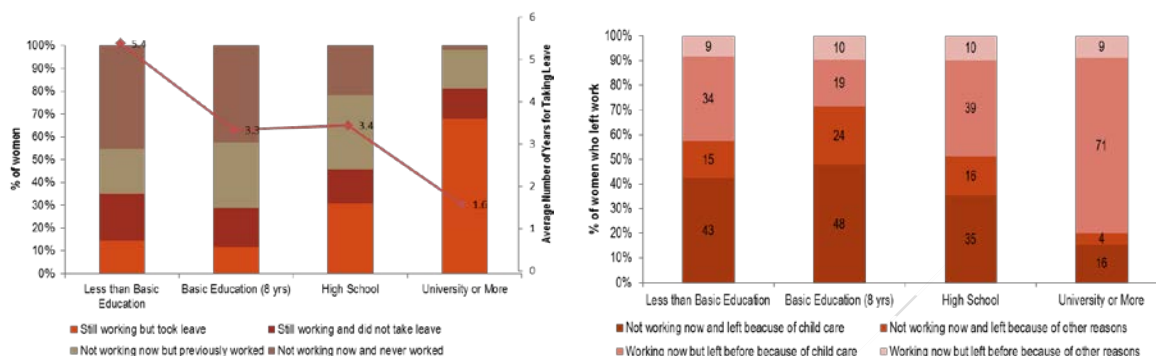
⁷¹ Source: World Bank World Development Indicators 2012

⁷² Source: Ministry of Development 10th Development Plan Page 164 (accessed from www.kalkinma.gov.tr)

Figure 20 Low attachment of mothers to labor force, particularly among women with lower than university level educational attainment

Panel A. Labor market attachment is higher among more educated women

Panel B. Women with lower levels of education (less than university) are often times unable or unwilling to return to the labor market after child birth.



Source: Turkey Child Care Assessment Demand Side Dataset

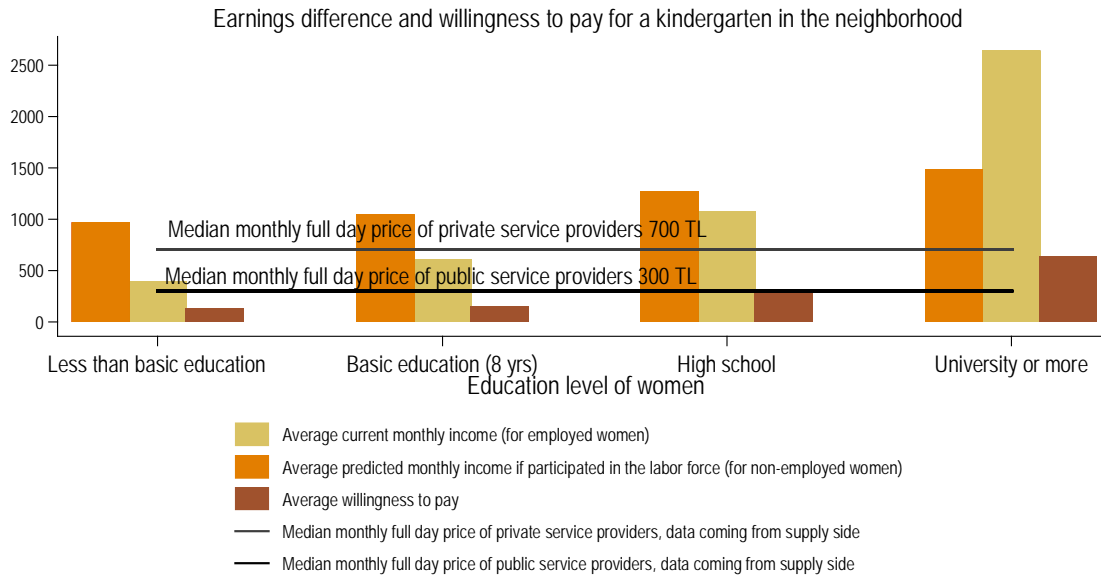
The pattern of low labor force attachment among women with lower levels of education is very much linked to their earnings potential in the labor market and the low earnings difference (between what they potentially would make in the labor market and the opportunity cost of working). The earnings difference is essentially the difference between the potential (or actual) earnings of the woman in the labor market, and the opportunity cost of working which comes in the form of cost of child care. In the absence of affordable child care options, women have little economic incentive to re-join the labor market after the birth of their children, particularly if they have low educational attainment and low returns to their labor. In the words of one non-working mother in Istanbul:

"I know many people comparing their potential earning and kindergarten prices. In the end, they decide to not to work. The prices of good quality kindergartens are very expensive, and this keeps them away from joining the labor force. They prefer taking care of their children by themselves. (*Non-working mother, 45, basic educational attainment, Istanbul*)

Empirically, this is shown in the analysis in Figure 21, where the actual and potential earnings of women by levels of education, their willingness to pay for child care (as reported in the household survey) and the median prices of available public and private full day care options coming from the supply side data are provided⁷³. As seen from the analysis, for women who have high school degrees, the amount of full day private center based care is more than half of their earnings in the labor market. At the level of their willingness to pay for child care, only public services exist and these services often only enroll children after the age of 5 and usually only for half a day – thus making it difficult for these women to count on these services to join the labor market.

⁷³ See Technical Note 15 for details on methodology for estimating potential and actual earnings in the survey data.

Figure 21 For most women - particularly for those with low levels of education- the earnings difference (between earnings and the cost of care) is too low to justify joining the labor force and their willingness to pay for care does not cover the current median prices for child care and kindergarten services



Source data: Turkey Child Care Assessment Demand Side Household dataset for willingness to pay and predicted earnings variables. The price data comes from the Turkey Child Care Assessment Supply Side Service Provider Survey

Although affordable child care promises to increase female labor force participation, in the current set-up -and current definition of available services - **publicly provided child care and preschool services do not seem to contribute to women's employment**. A regression analysis looking at the probability of women's employment controlling for the woman's and her husband's educational attainment, the household per capita income, the average support a woman gets at home and the utilization of (public and privately provided) center based child care services finds that utilization of public child care and preschool services is not associated with higher probability of employment for women, and only privately provided services is associated with higher employment of women (See Technical Note 16 Column 3). The relationship between employment of the mother and private utilization of child care can go both ways, and the association here is by no means a causal statement (meaning it is not possible to say that private provision gives women the opportunity and possibility to work), rather it is possible to say that women who are employed are more likely to be using private service provision. This is likely linked to the fact that publicly provided preschool services offer limited hours of service, while also serving a limited age group.

So can we actually push the labor supply curve for women out and incentivize Turkish mothers to join the labor market, by providing more available and affordable services? In the absence of experimental studies, it is difficult to make this case empirically from data. Simulation results show that changing the earnings difference can push the labor supply curve of women out. However, the employment impact of a purely demand side subsidy is likely to be limited and regressive in the short term. A simulation looking at the medium term impacts of a demand side subsidy shows that for 138 million TL per month spent on the subsidy, targeting working mothers who have their children enrolled in preschool, about 187,600 women are likely to

join the formal labor market, constituting a less than 1 percentage point change in female labor force participation⁷⁴. But comprehensive policies that target **both the supply and availability of child care while making it more affordable on the demand side** particularly for women who have potential to join the labor market, are expected and likely to have a high employment impact.

International evidence also points out to evidence that increased child care availability increases labor force participation of women. For example, for Italy, Del Boca (2002) investigates the effect of limited availability of part time jobs and child care services on fertility rates and female labor supply. He finds that availability of child care services increases both fertility and employment of women. For Argentina, Berlinski and Galiani (2007) find that a large scale construction of public pre-primary school facilities increased both participation of children aged between 3 and 5 in pre-school as well as mother's participation into the labor force. In a similar vein Baker et al (2005) analyze the effect of an expansion in subsidized provision of child care on labor supply of married mothers in Quebec, Canada. They find that the expansion has a significantly positive effect on labor supply of married women.

In the focus group discussions, participants explained that only private child care services would meet a working mother's needs in terms of extent of services and quality, and therefore stated that the high costs of (private) child care was one of the main obstacles to their participation in the labor force. Moreover, 43 percent of the women in the non-working groups and 35 percent of those in the rural groups stated that availability of affordable and quality child care centers would/could enable them to work so that they could improve the family income and the children's welfare:

"I really would like to go back to work. It's been almost one year since I left my job. If I could find someone whom I could trust and count on, I could leave my baby and resume work. I have to work, because three of my children are university students: I have to work and make money to meet the needs." (Non-working mother, 38, basic educational attainment, Istanbul)

"If there was a kindergarten I would send my daughter there, so I could find daily jobs and earn some money. If there was a chance, I would work. I want to work." (Rural mother, aged 26, basic educational attainment, Denizli)

With increased availability of quality and affordable child care in Turkey, we are likely to see a higher rate of participation in the labor market, particularly in urban areas and among women with a minimum of a secondary school degree, as the earnings difference is reduced for women between their own earning potential and the cost of child care.⁷⁵ As put by one mother:

"If you were sure that your child would get quality education, and if the service were affordable why wouldn't you start working? You would." (Working mother, 34, high school educated, Istanbul)

⁷⁴ The microsimulation model is provided in Aran, Immervoll and Ridao-Cano (2014). Note that in the simulation, another 37,600 women are estimated to enroll in ISKUR programs, these are women who become activated as a result of the program but their predicted earnings in the model are below the net minimum wage and are hence assigned "job seeker" status.

⁷⁵ As outlined previously, the benefits of childcare centers discussed in the focus group discussions are not limited to FLFP perspectives. In addition the participants also discussed other benefits of care centers for mothers such as allowing them to have quality time for themselves and easing the burden of their housework responsibilities. In the same spirit, few stated that using care centers and having time for themselves could also improve the quality of their relations with their children by improving their own morale and tolerance.

The high cost of child care creates a low or negative earnings difference, reducing incentives of women to join the labor force. (Potential) working mothers with less than university education demand costs that would enable them to achieve a reasonable difference in earnings (potential earnings *minus* total costs of child care) – “reasonable” here meaning that the contribution they make to the family income would contribute to the quality of family well-being and would also balance opportunity costs of not working.⁷⁶ Most non-working participants of less than university education assumed that if they worked they would be able to earn little below or above the minimum wage, and while the numbers varied from participant to participant, also depending on their views about the benefits of child care for the children, the general trend was that mothers did not want to spend more than half of their real or would-be monthly wage on child care costs. Most thought one-third and one-fourth of their earnings spent on child care was the ideal maximum (See also discussion on the willingness to pay in Section 3.7).

3.5 CHANGING NORMS REGARDING OF CHILD CARE PROVISION

While it is the norm for women to be bearing the brunt of care responsibilities in Turkey, women do not report being satisfied with the way child care tasks are divided between them and their spouses. On a scale of 0 to 10 (0: not satisfied at all, 10: completely satisfied) mothers on average reported a score of 5.0. However for employed mothers the score is higher with 5.6, while for mothers who are not working, it is lower with 4.6. Furthermore these averages are statistically significantly different from each other. Hence, non-working mothers particularly are not satisfied with the division of tasks with regards to child care in the household.

Most women - regardless of educational attainment and employment status- believe receiving more support in child care would make them more likely to participate in the labor market. In the demand side survey a number of questions were asked to women about their perceptions related to the relation of child care responsibilities and labor force participation and about the role of government in the provision of child care services. Most women in the sample think that they should get more support with regards to child care and this would increase their labor force participation. 82.7 percent of mothers agree that mothers receiving child care support from family or other individuals are more likely to enter the labor market. And in line with this, majority of women (81.7 percent) agree that child care and home-related domestic responsibilities make women's labor force participation difficult. Both employed mothers and mothers who are not working agree on these terms. In addition, educational background causes minor changes with regards to women's agreement to these terms. Although the differences are minor, it is actually mothers with the lowest level of education (less than basic education) who agree the most that household responsibilities make it difficult for mothers to participate in labor force (86.1 percent of mothers with less than basic education degree agree to this term). And again it is the mothers with lowest level of education who agree most to the term that receiving support with regards to child care would increase women's labor force participation (85.4 percent of mothers with less than basic education degree).

⁷⁶ Affordable costs of child care is particularly important for (potential and actual) working mothers, since it also impacts their opportunities to participate in the labor force – which is primarily motivated by their willingness to financially support their families and children.

Mothers also believe that if they work in a paid job, this would improve family's and children's well-being. The majority of mothers in the sample (76.3) agreed that working in a paid job would improve their family's and children's wellbeing. This level varied between 72.3 percent for not employed and 81.2 percent for women who are working. Interestingly, mothers with lowest levels of educational attainment were most likely to agree with the statement - their probability of agreeing with the statement was 81.8 percent⁷⁷.

Most women state that having access to affordable and quality day care would increase female labor force participation. 85.7 percent of all mothers agree that credible, safe, high quality, and not-expensive child care services would increase mothers' labor force participation. Furthermore this result does not change depending on employment status or education level of the mothers and over 80% of mothers employed, not employed, low educated or high educated agree with the statement. (See Figure 22 Panel A).

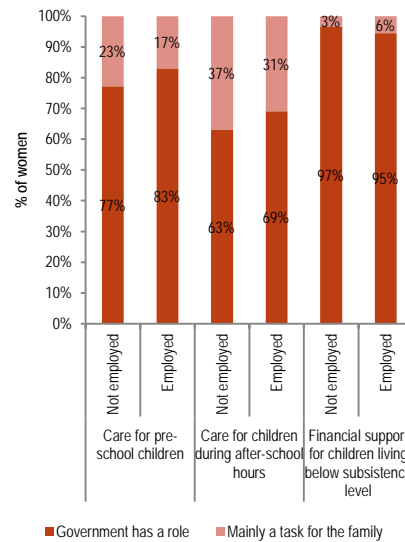
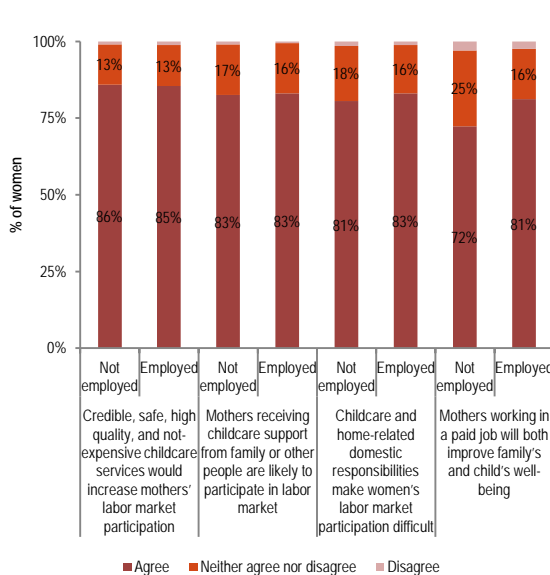
Figure 22

Most women -regardless of educational attainment and employment status- believe mothers should get more support in child care and that this would increase women's labor force participation..

and most women -regardless of employment status- believe government has a role in providing child care services

Panel A

Panel B



Source data: Turkey Child Care Study Demand Side Household Survey

⁷⁷ The data for these estimates come from the demand side quantitative household data set. In focus group discussions many participants also stated that the benefits to their children was their main motivation for taking up employment, explaining that they work "so as to better meet their children's needs, and to be able to provide them with better opportunities".

There is evidence showing that the norms around center-based child care provision is changing, such that it is now increasingly expected of government to have an active role in the provision of child care services. In the quantitative demand side household survey data, the majority of mothers (79.8 percent) think that there is a role for government with regards to provision of child care services (See Figure 22 Panel B). This result stays pretty much the same regardless of employment status of mothers or their educational level. While a lower percentage of mothers (65.8 percent) think that there is role for government in the provision of child care services for after-school hours, still the majority thinks that child care during after-school hours as well is not only a task for the family. Not only with regards to provision of care but also with regards to helping families in financial need, it is believed that government has a role according to the mothers. 95.7 percent of women in our sample think that government has a role in providing support for people in need.

Also during the focus group discussions there was agreement among participants with regards to government's responsibility in providing affordable and quality child care. Qualitative analysis of discussions shows that high costs of child care is a major problem and one of the main barriers against wider use of child care among working and non-working women. The participants believe that the government should develop policies to address these problems. There is general agreement that the costs of care in public schools should be sponsored by the state. Regarding this, participants compared government's responsibility and services to those in other areas of compulsory education. While the monthly fees of public care centers are perceived to be relatively affordable, participants explained that in addition to monthly fees, families have to pay (in cash or in kind) for additional costs⁷⁸. There was general agreement that providing for these should also be government's responsibility; particularly during the compulsory year:

"I am asking for help from the state. You know how the state supports children during primary school education [with free books and materials], and how this relieves the burden of the families? I am asking for a similar kind of support for kindergarten education. Because public kindergartens are very costly, almost like private centers and we cannot use them due to high costs" (Non-working mother, 38, high school educated, Eskişehir)

"If the pre-school education is compulsory, then the state should cover the costs of this education. ... Like in primary or secondary education [books and material] could be provided for the children in the compulsory pre-school year." (Father, 37, high school educated, Eskişehir)

Provision of care services as such was discussed by some in the context of government's responsibility to provide education and a better future for the economically marginalized. As explained by one participant, *"the state could subsidize pre-school education"* and hence increase financial accessibility of these services *"for the sake of raising educated and informed new generations of citizens; for the sake of the society"* (Working mother, 38, basic educational attainment, Istanbul).

Secondly, participants want affordable yet quality care services, some underlining that they would not currently use what is affordable for them since these services do not satisfy their minimum quality conditions. At the same time, quality of care centers, and particularly in terms of its benefits to the child, also affects participants'

⁷⁸ The additional costs stated included the cleaning materials, stationary (for activities) and sometimes even the wages of cleaning staff.

willingness to pay for these services⁷⁹. Accordingly there is also agreement among participants that the government should take responsibility for lowering the costs of private care centers via policies or regulations:⁸⁰

"If the state would pay 300 TL of the costs of the kindergarten, and us as families the other 300 TL, then this would be great! This makes so much sense, because in truth, the families who can't send their children to kindergartens cannot do so because of affordability reasons... quality concerns is a minor issue." (Working mother, 34, university educated, Samsun)

Government's responsibility in providing affordable and quality care is also discussed in the groups in relation to other social policy areas, such as the ability of women to participate in the work force as well as families' decisions on the number of children they would like to have. For example, several participants explained their belief that government's policies with regards to number of children is in contradiction with the policies on child care and FLFP, particularly in the context of earnings difference and therefore unrealistic:

"Our Prime Minister tells us 'bear three children'. However, there are many women who are willing to work but cannot do so because they are not able to afford a day-care center. How can they have more children? Then there are also families who cannot have children because they don't earn enough. How could a man with a minimum wage, have 3 children and also afford to pay costs of rent, food and clothes? It does not make sense." (Working mother, 30, high school educated, Eskisehir)

3.6 EXPECTATIONS FROM CHILD CARE

During the focus groups, the expectations of mothers and fathers from child care centers were assessed in terms of availability (location, hours of operation, service to age groups), quality and prices.

3.6.1 EXPECTATIONS ON AVAILABILITY

3.6.1.1 LOCATION

One of the themes that repeatedly came up during focus group discussions was the lack of availability of child care services at affordable prices. The supply of child care services that would meet working and non-working mothers' needs at the local level (at neighborhood level) is considered not to be enough. A significant number of participants (both working and non-working) have explained in focus groups that there are no child care centers that would meet their needs. The supply of affordable and quality care centers for 3-4 year olds seems to be low, whereas supply of affordable and quality nurseries and crèches are almost non-existent.

⁷⁹ Some mothers explained that they are ready to make sacrifices to send their children to kindergarten, since this would guarantee them a good education. (Some even said that they worked or would work to send their children to kindergarten)

⁸⁰ Many participants perceive private centers to be better in terms of quality; furthermore private centers' attributes are better suited to the needs of employed women. This is discussed in detail in the below sections.

During focus group discussions, there was a general agreement among mothers that the child care centers should be located in the neighborhood and should be in a walking distance. On one hand, this is related to practical concerns, such as taking the child to and from school in general (and particularly in winter), being close by to pick up the child in case something goes wrong in the care center, or reluctance to use shuttle buses for young children due to security concerns. On the other hand, it is also cost related; using shuttle buses for services that are not in the neighborhood increases the costs of care centers significantly.

For actual and potential working mothers another preference for location is care centers placed at or close to their work place. Need for child care centers at the work place were particularly emphasized for care needs of young children (of ages 0-3). The mothers explained that this way they could be close to their babies/young children, could continue breastfeeding them and could check on them regularly to see if they are well taken care of. Some also stated that lack of child care for 0-3 year olds was responsible for the long pauses of women's employment and explained that having child care close to work would enable them to continue working following the end of their maternity leave.

"If there were crèches at the workplace, we would leave our children there and continue working without any longer breaks than official maternity leave. We could just go and breastfeed our baby during the working hours. I wish we would have such opportunities..." (Working mother, 31, high school educated, Istanbul)

"I will start working at this research hospital. There, mothers with babies can leave work at 3 pm. The hospital has a care center at the facility. They accept children from age 1 on, so you can leave your child. It is very comfortable and safe [and you don't feel guilty]. At lunch break, if I want I can go and spend the one-hour with my child. I can walk him around, feed him. During work hours I can check on him" (Excited reactions from the group: "How wonderful!"; "This is exactly the solution I was trying to get at!") (Working mother, 31, University educated, Istanbul)

3.6.1.2 HOURS OF OPERATION

Hours and days of operation at care providers, both public and private, do not meet working mothers' needs. While private centers provide services that are better suited to the needs of working mothers in comparison to the public ones, still only few of them have hours of operation that fit the needs of full-time working mothers. Most of the full-time working mothers (and mothers who consider working in the near future) said they wanted full time care services, such as from 9 am to 6 pm. Also some expressed that they would need some flexibility in the evenings, since very often they can be late due to traffic or other reasons to pick up their child at the end of the day.

Another need expressed particularly by mothers who have to work long shifts (particularly blue collar workers), was having flexible hours of operation in the early mornings and in the evenings as well as Saturdays.

"An employed mother works from 8 am till 7 pm. But currently there are no crèches, or public schools in the neighborhood which would provide services during those hours. [In the current circumstances] I would have to leave the child to the care center at 8-9 am in the morning, and then would have to pick him up 5 pm. But I can't do that! It's too early" (Working mother, 29, high school educated, Istanbul)

"Well, there is a kindergarten close to our home but it works from 8 am until 5 pm. But my working hours are much longer and I don't have anyone else to pick up my child from the kindergarten at 5

pm. So let's say I enrolled him, who is going to pick him up?" (Non-working mother, 36, basic educational attainment, Samsun)

In such cases, having one or two teachers/staff on call for these particular time slots was mentioned as a solution. Non-working mothers were generally content with part-time hours of operation.

3.6.1.3 AVAILABILITY OF SERVICES BY AGE GROUP

Many working mothers expressed a concern with the lack of availability of services for children younger than age 5⁸¹. The focus group discussions revealed that there is a significant unfulfilled demand for child care services for 3 and 4 year olds among both working and non-working mothers. However, public schools predominantly serve 5 year olds and while private centers offer services for a wider age group (2,5-5), high costs of services make it impossible for most of the families to use these services.

The gap in service provision to 0-3 year old children is even greater than the gap in provision for the 3-5 age group -as also shown by findings of the supply assessment- however the demand for child care services for this age was also thinly expressed in the focus group discussions. Nevertheless, for many mothers with labor force participation potential, lack of quality care services particularly for children of age 0-3 is a barrier to (re)join the workforce. While there was general agreement across groups that children should be cared at home until they are 18 months old, few participants also said they would like to have access to quality care services for children of 18-36 months, so that they could resume (start) employment earlier.⁸² Furthermore some explained that they would prefer quality care centers to care-minders since,

"No matter how good the care-minder is, she cannot compare to a teacher who's got the training for child development" (Working mother, 30, High school educated, Eskisehir).

A father explained elaborately how provision of services played an important role in influencing parents' perception of earliest age and demand of care services and drew attention to the potential for government action in this area:

"The State must do more about the issue of child care centers. Sending a child to kindergarten at the age 2 or 3 is very alien and undesirable to us now. Yet if we had known that there were safe, secure and good quality care centers, if we had seen some good examples maybe we could get used to the idea. So far we've seen such services only on television, we know that they exist in Europe." (Father, 34, High school educated, Istanbul)

⁸¹ While the child care for 3-5 year olds is sought for its benefits for both children (ECD) and mothers (employment and time for self), the demand for 1-3 year olds is predominantly sought for its benefits to the mothers. In other words while the beneficiaries of 3-5 year old care services are both working and non-working mothers, the beneficiaries of care services for 0-3 year olds are predominantly actual and potential working mothers.

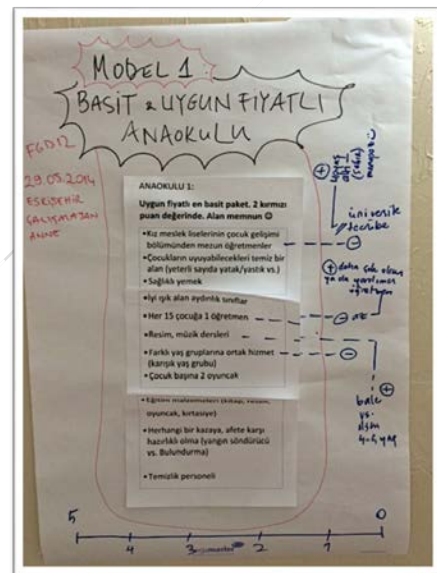
⁸² A question to keep in mind is that could it be that lack of quality services and good examples influence demand negatively.

3.6.2 EXPECTATIONS ON QUALITY

During focus group discussions, the minimum quality of care demanded by mothers and fathers were assessed, as well as desired quality standards that go beyond the bare minimum of what they expect. In terms of minimum quality standards, the main themes that came up related to hygiene, security and teacher's/caretaker's quality of interaction with children.

In order to probe the quality expectations of mothers attending focus groups, a special interactive game called "**Design Your Own Kindergarten**" was set-up during focus group discussions. The game first provided a basic kindergarten model to mothers asked them first to rate the given basic model and then to provide an estimate for how much they would be willing to pay for the basic model. The game was designed to reveal the preferences of women in terms of child care quality expectations alongside cost considerations. The characteristics of the basic model - provided in the first part of the game to women - were as follows:

- Teachers are graduates of vocational high schools in early childhood development or related field
- Facility meets basic safety and security standards and is well-prepared for disasters
- There is sufficient number of cleaning staff for indoor and outdoor cleaning
- Healthy meals are provided
- Child:Staff ratio is at 15:1
- Curriculum includes art (painting & drawing), music, numbers, letters, etc.
- Services are provided in mixed-age groups/class rooms
- Sufficient amount of subject/play materials (stationary, books, toys, pencils, etc.) 2 toys per child are provided
- Sufficient number of clean beds and pillows for children exist
- Classrooms and indoor spaces get sufficient sunlight



Following the discussion on the basic model, it was found that the general, minimum expectations of mothers from center based care services include:

- **Good hygiene:** Under this theme, the following sub-topics were often mentioned: (i) access to clean toilets and classrooms, (ii) appropriate support staff responsible for cleaning, (iii) appropriate support staff responsible for assisting children in undertaking their hygiene needs,
- **Secure and healthy environment:** Under this theme, the following sub-topics were often mentioned: (i) a camera system that would enable (particularly working) mothers to monitor their children online, (ii) the need for care center to be located in a safe place (particularly with regards to traffic flow) that would not risk children's security, and (iii) provision of healthy food for children and/or making sure children are eating well.
- **Teacher and caretaker interaction quality:** Under this theme, the following sub-themes were often mentioned: (i) teachers should be caring for children in class "like their own children"/ "as if they are mothers"; (ii) teachers/caregivers should have a one-to-one relationship with the children and should pay attention to their physical and developmental needs, (iii) teachers must be "loved" by children,

(iv) there should be no mistreatment of children by caretakers and teachers (no physical punishment or scolding of young children). (v) negligent and careless teachers and caregivers should be dismissed from the system⁸³.

In the second stage of the game, participants were asked to assess how they value additional quality standards. They were asked to make 3 choices among the 9 options that were provided to them, while also keeping in mind that their choices would increase the costs. Focus group participants were provided with 5 chips to represent their budget, and were asked to allocate these chips to “purchase” additional qualities to add to the basic model⁸⁴. The chips were stuck to the board next to the names of the additional features and in each focus group a picture was taken of the overall votes received by each feature. They were offered the following options to choose from, to add to the basic model:

- *Single age classrooms*
- *Garden/playground*
- *Teachers who are graduates of universities on early childhood development*
- *Lower Child:Staff ratio (8:1)*
- *Child psychologist*
- *Extracurricular activities (like sports, dance, etc.)*
- *School trips (to museums, theaters, etc.)*
- *Nurse*
- *At least 3 toys per child*



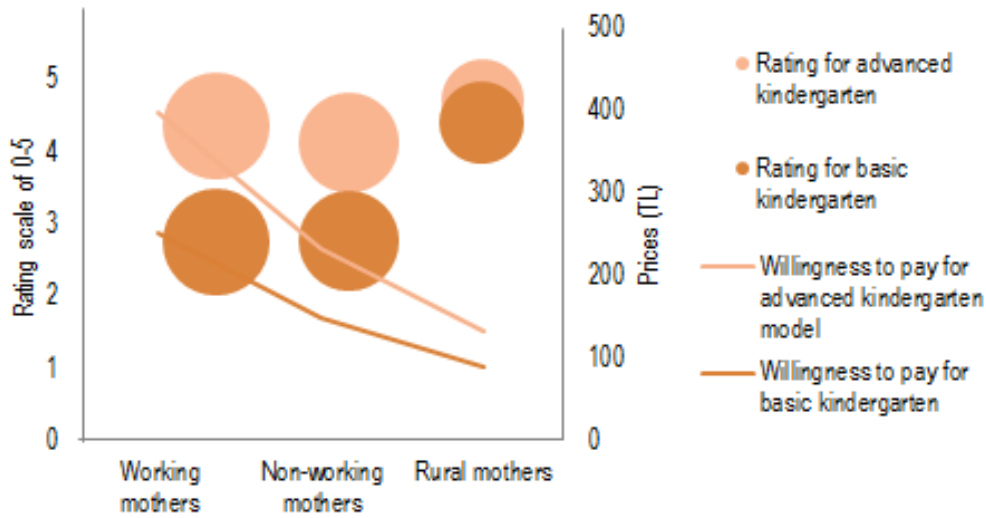
The focus group participants were then asked to discuss their decisions about which qualities they preferred and these remarks contributed to our understanding of why certain features were preferred over others. They were also presented with a short survey asking them to (i) rate both model 1 and model 2 child care service centers, and (ii) decide how much they would be able to pay for each model based on their monthly household income.

Both working and non-working mothers in urban areas rated the basic model with an average rating of 2.8 out of 5. For rural mothers, the model presented fulfilled their quality expectations and the model received a rating of on average 4.4 out of 5. By levels of education, the rating of mothers for the basic model varied as well, with university graduate women in urban areas giving a rating of 2 out of 5 for the basic model, and the mothers with basic educational attainment giving the model a rating of 3.1 out of 5. In general it is possible to say that the basic kindergarten model received an overall rating of 2.8 out of 5 in urban areas and 4.4. out of 5 in rural areas. The willingness to pay for the basic model was about 252 TL per month by working mothers and 148 TL per month for non-working mothers in urban areas. The rural mothers in the sample were willing to pay 89 TL on average for the model given their lower purchasing power. (See Figure 23).

⁸³ In this respect, Article 28 of the Regulation On The Establishment And Functioning Principles For Private Creches, Day Care Centers And Private Children's Clubs that was published in the official newspaper dated 08 October 1996 and numbered 22781 states that: "Institution personnel who are found to neglect the children or who commit any crime against the children will be charged according to the Turkish Criminal Law and Article 27 of the Law on Social Services and Child Welfare Institute numbered 2828."

⁸⁴ The basic model would cost them 2 chips, and they would allocate the 3 additional chips on any one of the below qualities. (Aggregating these data for 25 focus groups, we attained the numbers provided in Figure 24.)

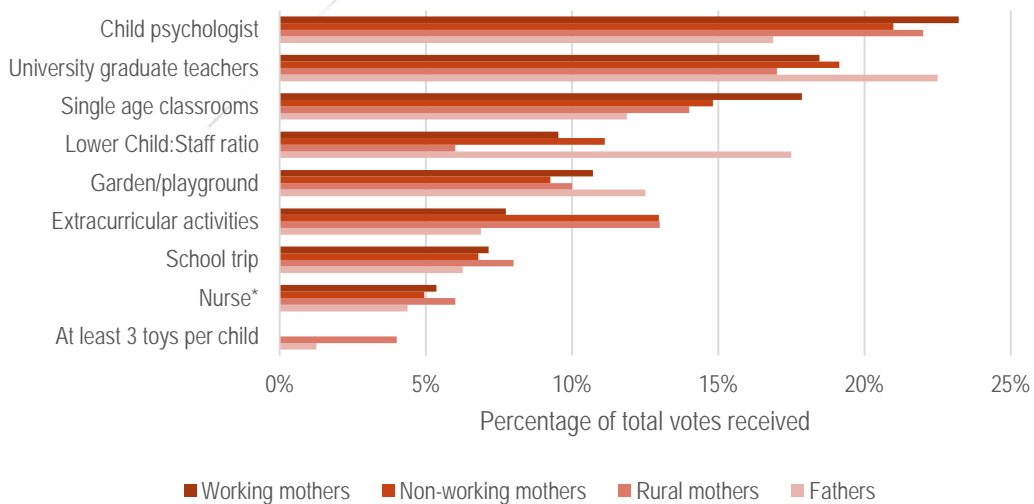
Figure 23 Rating and Willingness to Pay for different types of Kindergarten Models



Source data: Turkey Child Care Assessment Demand Side Focus Groups

Urban working mothers were willing to pay more for the additional qualities offered by the advanced model (the willingness to pay difference was about 147 TL/month for extra qualities), although urban non-working mothers could only contribute an additional 85 TL /month for the advanced model. In rural groups, participants welcomed the quality attributes offered in the basic model and most explained that while they appreciate the extra qualities offered by the advanced 2nd model, they did not need them and would not be willing to bear the extra costs. The aspects of the more advanced model that received the highest number of votes by focus group type is provided in Figure 24 and they are discussed in more detail below:

Figure 24 Most Popular Aspects of the Advanced Kindergarten Model



Source data: Turkey Child Care Assessment Demand Side Focus Groups

Child psychologist

Having a child psychologist at the care center was the most often voted characteristic of the advanced kindergarten model, receiving in total 21 percent of the votes across the groups. More than half of the FGD participants voted for the presence or availability of a child psychologist as the top preferred characteristic of a higher quality child care center.

The debate on the need for a child psychologist at the care center revealed the mothers' need for parent training, which could also be provided at the care centers. Participants' explanations of their choice suggest that some feel like they lack parenting skills with regards to understanding, communicating with and mentoring/leading their children. Many explained that sometimes they find it very hard to communicate with their children or to understand why the child is engaging in certain behaviors:

"For example my son is very naughty, sometimes aggressive. At least the psychologist could help us understand his mood, what it is that he wants... Sometimes we don't even understand what they want." (Rural, 30, basic educational attainment, Samsun)

Others explained that they would appreciate someone who would monitor the cognitive, social and behavioral development of the child so as to both inform them of her progress and to take necessary measures. Yet others explained that such a professional could act as a counselor for they themselves and direct them in how to deal with and treat their children.

"Why would we demand a child psychologist? Because we as mothers do not feel competent or sufficient enough for some of the needs of the children. Especially children of the working mothers are a bit aggressive. They feel deserted by their mothers. Or there might be other home-related problems that children face. In such instances psychologists come to aid" (Working, 45, High school educated, Eskisehir)

The participants who did not vote for this option explained that teachers with university education in ECD could also perform the same function. One participant stated that if the parents felt the need they could take the child to a pedagogue outside the school (so that they would pay for the pedagogue of their own choosing), and this was what was done in the past.

University Graduate Teachers

The competence of teachers was emphasized by all participants to be very important. As put by one participant: *"The teacher is very important. Send your child to the best school for 3 years, and if the teacher turns out to be bad, it's still no good for the child."* (Non-working, 28, high school educated, Istanbul)

With regards to the educational attainment of the teachers, more than half of the participants voted for **university graduate teachers** instead of teachers who are graduates of vocational schools, and emphasized healthy development and education of the child for their decision. This option received 19 percent of total votes in the FGDs (See Figure 24). University graduate teachers are thought to be: (i) Professionals who got a 4-years training for early childhood development including pedagogy, hence better capable of relating with and educating the child, (ii) Older age wise and therefore more mature, and (iii) more likely to be mothers themselves because of age and hence are more receptive of children's needs, would have more compassion.

Because of associated ECD benefits, university graduate teachers were demanded more for those children older than 3. Participants explained that it was not necessary for all teachers/caregivers to be university graduates, that they could also have assistants who are graduates of vocational schools to help with more standard tasks, but that it was important that the university graduate teachers were in charge and control of what was going on with children; to keep an eye on the class, and directing the days' activities and curriculum.

Not all participants, however, thought that university degree was necessary for teachers. These participants emphasized that what is required from a care center teacher is to be *compassionate*, concerned with all children and experienced; somebody whom the children would love.

"I don't think being from a university or a vocational school matters that much. You get the same education on child development. It is having experience that matters more, and taking a sincere interest in the children. This is what I observed with my children." (Non-working, 28, basic educational attainment, Samsun)

Particularly, for **rural mothers** the educational attainment of the caregiver, especially for younger age groups, did not matter as much as her experience in child care and trustworthiness. Furthermore they believe that education in vocational school on childhood development is a very respectable degree and equips the teacher with the required information. Nevertheless they thought that teachers' relation with the children was very important, and emphasized that it should be a caring relationship, without risk of maltreatment of the child.

Single Age Classrooms

Single age classrooms are desired both in the context of ECD but also in the context of safety and security concerns for the children. On one hand, participants believed that single age groups are better for the social and cognitive development of children, since their needs and capacities varies at different ages. In this sense, parents think within the context of the classical Turkish education system, where there is one curriculum developed for each age and therefore believe that particularly older children would be affected negatively by being in the same classroom/group with younger children, both behaviorally and cognitively. On the other hand, bullying of younger children by older children is also mentioned as a concern for both the physical and psychological health of younger children.⁸⁵

Lower Child-to-Staff Ratio

In the interactive gave, participants thought that 15 children for 1 teacher was considered high and many voted for a set-up with lower child/caretaker ratio. High child-to-staff ratio is thought to impact the time a teacher/staff would spend per child, and hence be a root cause for a variety of problems⁸⁶:

⁸⁵ Participants explained that putting children with one year age difference in the same group would not be so much of a problem. Age difference more than one was not welcomed.

⁸⁶ According to the regulations, in child care centers serving children aged 0-2 and accredited with MoFSPa group responsible and care taker is allocated to 10 children while for children aged 2-6 a group responsible and care taker is allocated to 20 children (Source: Article 14 of the Regulation On The Establishment And Functioning Principles For Private Creches, Day Care Centers And Private Children's Clubs that was published in the official newspaper dated 08 October 1996 and numbered 22781). For private child care centers accredited with MoNE, class size is determined as 20 children (Source: Article 48 of MoNE Regulation on Private Education Institutions which was published in the official

- Poor cognitive development possibility for children due to crowded classrooms,
- Poor physical care and hygiene standards (lack of assistance) for children; both due to volume of children and lack of sufficient staff to deal with it,
- Mistreatment by teachers/staff due to being overwhelmed by high number of children.
- Risk of going unnoticed by teacher in face of serious security risk

Lower ratio does not necessarily mean that all staff should be teachers, as long as the staff (for example assistant teachers and/or personnel) is able to prevent the above mentioned concerns. As suggested by one participant: *"there should be more teachers... It could be that the university graduates were the real teachers and the vocational high school graduates would act as assistants to these teachers."* (Non-working, 28, High school educated, Eskisehir)

Garden / Playground

While having a garden/playground features prominently in the standards imposed on child care centers, from the point of view of parents, this characteristic while being desirable, did not rank at the top of the list, receiving only 11 percent of total votes in the game. A garden or playground at the facility is desired mostly for the physical activities of the children. Participants explained that they cannot let their children play out on the streets, so the children (and particularly those who are thought to be hyperactive) need a place "to vent out their energy". Therefore, a playground is thought to provide children this space they can run around and play⁸⁷.

The mothers were also aware of the fact that as they were demanding care centers "in their neighborhoods", that having garden facilities might not be feasible. The FGD participants realized that in urban centers, most buildings do not have spaces for gardens, and there are rarely any spaces where such new infrastructures can be built. As put by one mother:

"I am living here, in the center of Samsun, for 12 years. Buildings, buildings, buildings!! Everywhere is full of tall buildings! So it is impossible to establish a kindergarten with a proper garden in this neighborhood – it's all concrete, there is no space for it. And they keep building more and more." (Working mother, 34, university educated, Samsun)

For the participants security of their children is also very important, and risk of being bullied by older children, especially primary and secondary school students in public school settings is worrying. In this sense some participants stated that they would not want to have a playground that would commonly be used by children of different ages. Participants' discussion on the garden suggests that what the participants need and desire is space and/or activities that involves physical activity and play for their children:

newspaper dated 20 March 2012 and numbered 28239). For public independent pre-schools class size should be between 10-20 while for public pre-school classes inside primary schools class size can go as high as 25 (Kaynak: 26 Temmuz 2014 tarihli ve 29072 sayılı Resmi Gazete'de yayımlanan Millî Eğitim Bakanlığı Okul Öncesi Eğitim Ve İlköğretim Kurumları Yönetmeliğinin 6. Maddesi.)

⁸⁷ Some more ideal images of a "garden" included "a place where children can play with the soil and raise crops, like in a village".

“For me an open space (i.e. garden) is important so that the child can move and let loose his energy” (Father, 32, high school educated, Samsun)

“What I ask from a kindergarten is safety and security. It should be separated from primary schools, and older pupils. Could even be in an apartment building” (Working mother, 34, basic educational attainment, Gaziantep)

Extra-Curricular Activities / School Trips / Learning Materials

Participants believe that extracurricular activities (such as traditional folklore dances, drama, sports activities) and school trips (to museums, monuments, etc.) are important in developing children's skills and knowledge, while also providing children further space to socialize and interact with their friends (social and behavioral development). Extracurricular activities are also thought to enhance children's self-esteem, whereas school trips are desired since participants themselves feel they are unable to take their children for sightseeing activities. Overall, there was not a strong emphasis on teaching and curriculum materials at the care centers and the mothers did not seem to show much appreciation of instructional toys/learning materials (stating mostly that 2 toys per child at the centers would be enough).

3.7 WILLINGNESS TO PAY FOR CHILD CARE

High costs of child care is a major problem for working and non-working mothers alike, and is stated as one of the main barriers against wider use of child care. For potential working mothers it also is a barrier to resume employment. The limitations of public care services in terms of age (for all mothers) and hours of operation (for working mothers in particular) means that the parents have to turn to private providers of child care services for under 5-year olds or for full-time services, however most of the mothers stated that they cannot afford these services.

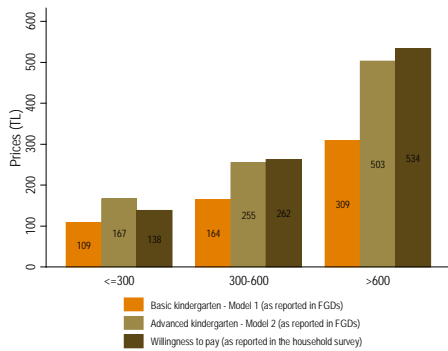
Lower costs are demanded so that (a) families can afford to use child care centers continuously, for example 3 years in a row (from ages 3 to 6), and (b) families with more than one young child can afford these services for both children. Costs are linked directly with the participants' ability and willingness to use child care services continuously, and from early ages onwards. When the costs are high, this also determines families' decisions about the proper age to use centers. For example some participants stated that they would delay using care centers by at least one year– in order to avoid one extra year of costs. Similarly costs also determine the number of children a family can afford to send to child care centers. For families with more than one young child, high costs are a barrier to use care centers, and women's labor force participation (See also analysis on the earnings difference and child care costs in Section 3.4 Figure 21).

The willingness to pay for child care services increases with the increasing levels of education of the mother, the per capita income at the household level as well as the woman's working status, whereby working mothers are willing and able to pay more for child care. Given the basic and more advanced models of kindergartens, women in focus groups were asked to provide a monthly estimate of how much they would be willing to pay for these services. For women with lower levels of education and per capita household income, the willingness to pay across the two models does not vary by a significant amount, whereas the difference is wider for mothers with high school or university degrees. For these women, the rating given to the more advanced model is also higher while women from lower educational backgrounds (and particularly rural women) actually give high ratings for the basic model. The results from the focus group discussions are also

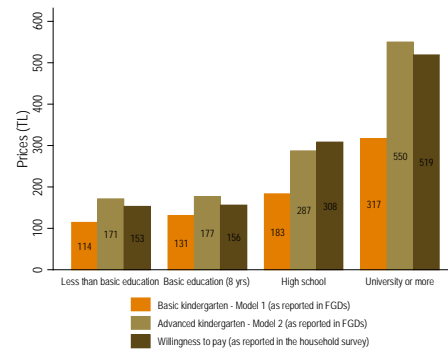
consistent with findings from the demand side household data, where the women were asked “how much they would be willing to pay for kindergarten in their neighborhoods that is safe, secure, and clean and of “acceptable” quality. Results coming from their answers to the question in the demand side quantitative household survey is similar to the level of willingness to pay for the advanced model (See Figure 25).

Figure 25 Willingness To Pay for the Basic and More Advanced⁸⁸ Child Care Models, by Mother and Household Characteristics
(TL per month for full day services)

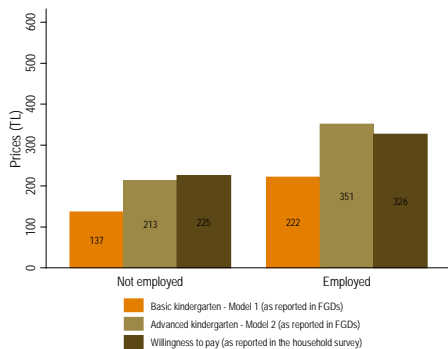
Panel A: By household per capita income



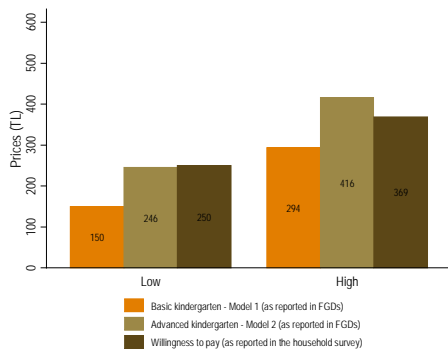
Panel B: By educational attainment of the mother



Panel C: By employment status of the mother



Panel D: By level of support provided at home to the mother⁸⁹



Source data: Turkey Child Care Assessment Demand Side Household Survey and Focus Group Discussions.

The willingness to pay for child care services is much lower than what is currently available in terms of prices in the market. When the prices coming from the supply side provider level survey is juxtaposed over the willingness to pay data coming from focus group discussions on the basic and advanced kindergarten models, one can observe that the current price structure, particularly in private service provision, is much higher than what households are able and willing to pay for services. Willingness to pay for child care

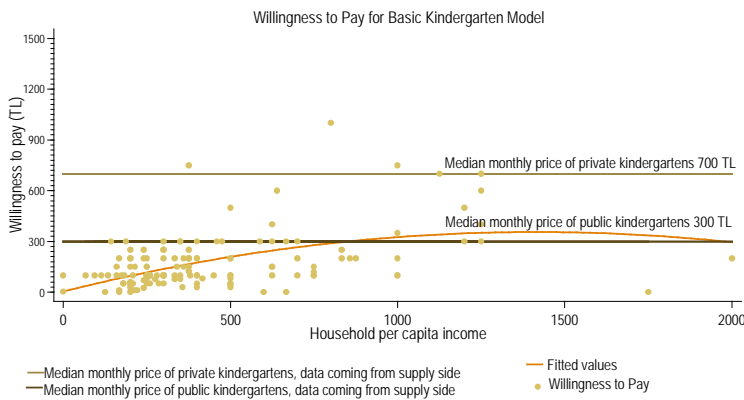
⁸⁸ The basic and advanced models for child care are described in Section 3.6.2 Expectations on Quality.

⁸⁹ Level of support provided to the mother at home is estimated using the demand side household data. High support is defined as receiving a score above 2.5 on the support index (which varies between 1 and 5). (See Section 3.1 Women's Care Burden and Child Care responsibilities - for details on the support index.)

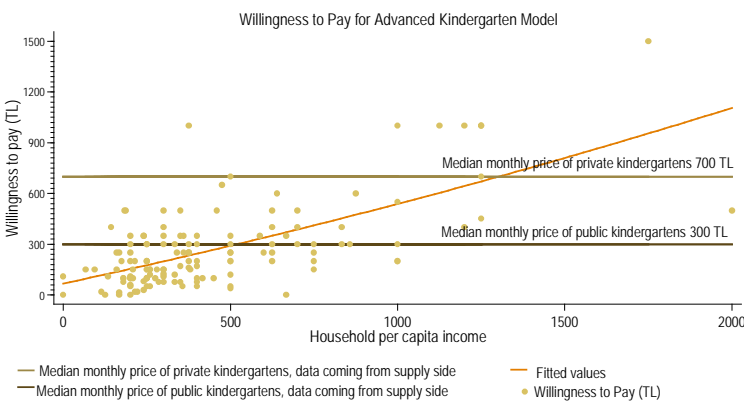
increases by the household's per capita income level: for the basic kindergarten model since the rating of the model declines for wealthier households one can also see their willingness to pay for this service decline as per capita household income increases (See Figure 26 Panel A). These households are willing, rather, to pay for the more advanced kindergarten model (as shown in Figure 26 Panel B).

Figure 26 Prices in the market are higher than what most households are willing to pay for the basic and more advanced kindergarten models ⁹⁰
(Willingness to pay by household per capita income for two different kindergarten models)

Panel A



Panel B



Source data: Turkey Child Care Study Focus Group Discussions - "Design Your Own Kindergarten Game" Results.

Women's willingness to pay is shaped in the context of care service options available for them in terms of both costs and quality. In other words willingness to pay is formed as a result of participants' evaluations of their own purchasing power vis-a-vis the projected value of these services in the current market. The simulation results show that average willingness to pay increases with higher household income per capita for the advanced kindergarten model whereas for the basic kindergarten model willingness to pay starts decreasing for a certain level of income. The results suggest that for women of lower income categories, affordability of child care – rather than advanced quality considerations beyond minimum needs - is more important in decisions to use child care (and willingness to pay). As the income level increases evaluations with regards to the value of quality offered starts to weigh more heavily. Women with higher income per capita are able to afford more quality services that satisfy their expectations, and therefore they are not willing to pay for quality (Model 1, basic model) that does not satisfy them (See Figure 26).

⁹⁰ Price data in this analysis comes from the supply side provider level and demand side household level data separately in order to afford a comparison between the two data sets. Average day care prices are those of the private providers.

4 CONCLUSIONS AND POLICY IMPLICATIONS

The Turkey Child Care study has collected and assessed information on the supply and demand for child care services in Turkey. On the supply side, data was collected from 377 public and 163 private schools under Ministry of National Education (MoNE) and 63 private schools under Ministry of Family and Social Policies (MoFSP) making a total of 603 service providers in 5 provinces of Turkey (Istanbul, Denizli, Eskisehir, Samsun and Gaziantep)⁹¹. In the analysis the current availability of the services (hours of provision, location, services to age groups), quality (in terms of building infrastructure, materials and curriculum and human resources) and prices for services delivery were assessed. On the demand side, household surveys were collected from 371 mothers of children (in age group 0-6) in the same provinces of the supply side assessment. Data has been collected from both users and non-users of child care services. Following the quantitative data collection, 25 focus group discussions with mothers (and fathers) were conducted to assess the demand side qualitatively. The demand side analysis' aimed to understand the views and perceptions of mothers (and fathers) about the use of child care services, and their expectations in terms of availability, quality and prices of child care services. Lastly, child care services maps were generated with administrative data including location, ages of children the service is provided for, and types of providers. The study is the largest and most comprehensive child care services study carried out so far in Turkey and provides an overview of the currently available services and existing gaps between supply and demand of child care services in Turkey.

The findings of this study reveal that there is significant unmet need and demand for child care services in Turkey. Currently out of 3,8 million children in age group 3-5 in Turkey, the number of children enrolled in preschool services is 1,1 million, constituting a net enrolment rate of 29 percent. To reach OECD average of 80.6 percent⁹², with the average rates of enrolment per facility, 42,388 new child care facilities would be needed and to cover all the children in this age group and reach to 100 percent enrolment rate the necessary amount of facilities is 58,380.

Supply Side Findings:

The supply side analysis, points out to the limits of the current provision of services with regards to the age groups that the capacity is provided for, service hours and location of the facilities. Among the schools surveyed, 61 percent of spots were available for children ages 5 and above and only 6 percent of spots were allocated to children in age group 0-2. This constitutes a problem for mothers, creating a difficulty to start working before their child turns 3. In addition, although 58 percent of the surveyed service providers reported providing full day services, most of these are private providers, offering services at costs higher than the willingness (and ability) to pay of average households. Furthermore, there are also limits to service provision in terms of months of the year that the service providers operate. Many of the public child care service providers usually operate half-day and moreover they do not operate during summer months. Hence, public schools don't contribute properly to the environment necessary for mothers to shift their care work and be employed in the labor market.

⁹¹ The schools visited were sampled from lists provided by MoNE and MoFSP as well as from direct field work.

⁹² Source: Enrolment in child care and preschools for year 2010, OECD Family Database

Perceptions by service providers on current standards and legislation around child care provision in Turkey, reveals that a significant percentage of providers have experienced past or present difficulties abiding by the standards. Of all public and private providers that were surveyed, half of them (47.3 percent) reported past or present difficulties in following at least some of the standards. Having access to a garden is listed as one of the top most difficult to fulfill standards by both MONE and MoFSP accredited private schools.

While public and private service providers have a similar level of human resources quality and relatively similar level of materials and curriculum quality on average, there is a large gap between public and private schools in terms of building and infrastructure quality. Given the requirements that private providers need to follow in getting accreditation as service providers, it is not surprising that the infrastructure/building quality is considerably higher than public providers. In fact, most of the gap between overall quality of public and private providers can be explained with differences in infrastructure/building quality, which in turn affects private provider prices as a result of higher rental costs.

Rent makes up the highest share in determining the overall operational cost of private service providers and there exists a strong pass-through from rents to school's prices. Private schools deliver a much higher quality of service based on infrastructure requirements, but also incur high costs in terms of their operational expenses in order to deliver this level of quality. Public schools are not subject to the same kind of rental costs. Controlling for different types of quality of the school rent has been found to be positively correlated with prices of private schools. Furthermore, median monthly rent of the private facilities increases with neighborhood welfare level. Thus our analysis points out that users of private services are paying mainly for rent in urban areas and location of services, rather than quality teaching materials and teachers' and caregivers' quality interaction time with the children.

Demand Side Findings:

The demand side analysis reveals that while utilization of center based services remains low, there is a high level of demand for preschool services especially for the 3-6 year old group of children. The benefits of providing quality early childhood education and care to young children is acknowledged by parents regardless of educational background, and working status of the mother. An awareness of the benefits of early childhood education and care (ECEC) is prevalent in society. Benefits of ECEC have been mentioned in focus groups by mothers and fathers of all socio-economic backgrounds, and mainly the context of improved socio-behavioral skills of the child and improved cognitive and pre-academic skills. Demand for day care services for children below the age of 3 is less pronounced. While the norms around "what is an acceptable age for sending children to preschool might change with the availability of services and increased utilization, in the current set-up increasing access to day-care for the 0-2 year old children is likely to have possible impact on a certain group of mothers who need immediate day care support after maternity leave, a focus on making services more widely available to children in the 3-6 year old group is likely to be welcomed by a majority of the population.

The benefits of support for child care to mothers is also acknowledged in demand side focus groups. The benefits to the mother are acknowledged by the groups as psychological (in terms of reducing the care burden of women) as well as economic benefits, whereby many mothers in the groups have stated that the earnings difference between the cost of private child care and what they would potentially make in the labor market is too low to justify them to enter the labor market.

There is an increasing demand for government involvement in the provision of services for child care. 79.8 percent of mothers who took the household survey reported that the government has a responsibility for providing care for preschool children. However current set-up of publicly provided child care and preschool services is not conducive for supporting women's labor force participation. Focus group discussions reveal that while the costs of public preschool services are relatively affordable, the quality and accessibility in terms of hours of attendance and age group eligible for these services is too limiting for mothers to use these services as day care options while at work. Consequently, women who would like to participate in the labor market have to utilize privately provided services. This is also confirmed by the fact data analysis shows no significant correlation between the utilization of child care services in Turkey and female labor force participation. In other words, the currently available services for child care in Turkey, do not necessarily have a positive impact on female labor force participation on average. Only the utilization of privately provided services is associated with higher levels of female employment (the relationship goes both ways, with women employed needing to utilize more private services, and the availability and hours of private provision enabling women to in the labor market.)

Focus group discussions further reveal that there is more demand for affordable child care than is currently compensated, and that an expansion of quality and affordable child care may lead to higher female labor force participation. Private care centers provide services that were deemed to be "unaffordable" to most households in the household data and focus group discussions. These services were ranked better by households in terms of quality and accessibility but they were regarded as being "too expensive" by most households that were surveyed in demand side discussions. A considerable amount of women in focus group discussions (38 percent of women in FGDs), have expressed the need (and expectation) for affordable preschool and child care services and a significant proportion of these women have expressed that they would be able to participate in the labor market were these services to be provided more widely, accessibly, at an acceptable quality and at lower cost.

SUPPLY AND DEMAND ARE NOT ALIGNED IN TURKEY'S CHILD CARE SERVICES

This study has identified three ways in which the supply and demand for services are not aligned in Turkey, such that the child care market does not clear - at competitive market prices.

The mismatch in the market is summarized below in three levels: (i) accessibility and location, (ii) prices and willingness to pay and (iii) quality of services and expectations of quality. In essence, this is due to a mismatch in the market in terms of expectations on availability, prices and quality between the supply and demand of services and is mainly caused by a lack of adequate public provision or financing to cover the latent demand and by high regulations and standards imposed particularly on the private services.

➤ **Mismatch in Accessibility and Location**

Child care services are not readily available in densely populated urban neighborhoods. In the regression analysis provided, population density of the provinces is found to be negatively correlated with supply of child care services controlling for population, number of children in eligible age group, women's literacy rates and welfare level in the province. Beyoğlu, a central district in Istanbul, is presented in the report as a case in point: where the number of children aged 3-5 is 10,057 there are only 4 private child care facilities. This leads to a considerable amount of children ending up commuting long distances even when they can afford to use the child care services. On average 18.1 percent of students in private schools are reported

to be commuting a “long distance” coming to school. This also increases the cost of transport and time spent during the commute for many families, adding to the cost of child care.

The provision of care is limited by the hours in a day and months in a year that the service is available to the parents. Of the providers that were surveyed 58 percent reported having full day services, while 60 percent of these are private providers. Most public schools report providing services for half-day which does not cater well to the needs of working mothers. Most public schools report being open only for 2 weeks in June and only for 2 weeks in September since they follow the education calendar. The months that the public service providers are closed again constitute a problem for working mothers.

The hours of operation and availability of services for younger age groups is also a reported problem, especially among women who would like to enter the labor force. The publicly provided services are mostly offered half-day and for the age group of children 3-6, hence women who need to work cannot utilize these services effectively and use them as “child care” while at work. A working mother has to either have private support at home (from family or professional child minders), or utilize private child care and preschool services in order to be able to leave home and work.

Child care availability – whether through public or private provision – both at work places and in the neighborhoods near the homes of middle-class and poor households – is necessary for providing women in Turkey the “option” to use day care and participate in the labor market. It is of utmost importance that the locations of care centers – whether at the workplace or near the home - are *conveniently accessible* for mothers and children, who will use these services.

Given the current economics of the child care market, and the current models used in child care provision, it makes little sense for private providers to make services available more locally (in poor or middle class neighborhoods) and to a smaller number of children. The break even analysis in the report, shows that given the high costs of setting up these centers, the number of children enrolled have to be at least about 40-50 children in order to recover costs of set-up for the private provider. The years it would take to recover costs for a private provider to break even with 20 children enrolled in the center is 3.1 years at average current market prices, and 9.4 years with the average willingness of households to pay for child care services⁹³.

Due to licensing requirements that are quite stringent particularly in terms of infrastructure and building quality minimum standards, the supply of services is limited such that only private providers who are able to meet the requirements are able to set up services. Survey results show that 47.3 percent of private service providers in the supply side survey reported “past or present difficulties” in meeting at least some of the standards and 36.7 percent of them have reported a difficulty with infrastructure, particularly outdoor space and garden requirements - in urban centers. Given the high level of barriers to entry to the market, pricing is not competitive – and those private providers who are able to pass the licensing requirements are able to (and partially need to, in order to recover costs of set-up) charge high fee levels. Due to the described barriers to entry into the market, there is a significant gap between the amounts of supply and demand for child care services at current market prices.

⁹³ This is a lower bound estimate and does not include the cost of financing (the risk-free interest rate in the financial market).

➤ Mismatch in Quality and Quality Expectations

While in terms of materials and curriculum quality and human resources quality, public and private providers are similar to one another, in terms of infrastructure quality private providers score considerably higher. Indeed quality of services provided for preschool children is highly important for their cognitive and socio-emotional development. However it is interesting to see that it is mainly the difference in infrastructure quality that makes the gap between the quality levels of public and private providers. It has been found that private providers score twice as higher as public providers on average on the overall quality score (Quality indices were constructed by using several questions in the supply side survey).

The expectations of quality as described by mothers and fathers in focus group discussions mainly focused on quality of human resources and interactions with children. Having a university graduate teacher as a main teacher or care-giver and having access to a child psychologist at school were among the aspects and quality elements most valued by parents in the focus groups. Many parents expressed concern that they needed more "direction" and guidance from the care centers or schools on parenting and positive discipline methods. Hence the expressed need for well-informed human resource staff at care centers was mainly a concern coming out of a lack of (self-perceived) competence on the part of parents in focus groups in terms of their own parenting abilities and the need for more guidance in these matters (which can -and probably should - also be supplemented by parenting programs).

Having access to a garden which is one of the most expressed standard that is most difficult to fulfill by private providers did not feature on the topmost quality definitions of parents. The garden requirement was mentioned as "a nice thing to have" and was emphasized as a tool for children's physical activity needs, though some parents who took part in the focus groups also acknowledged the current urban landscape and the difficulty in finding spaces in city centers for buildings with outdoor spaces. Given that there is also no international evidence that proves better well-being or learning outcomes for children when the building itself has a garden (when compared for instance to children utilizing a public park every day for some outdoor hours), and in light of this standard not being on top of the list for households demands from child care, it is very important to *reconsider* these "quality" standards that significantly push up prices and question whether they are a true reflection of the needs and demands of mothers and children in the current (and changing) Turkish urban landscape.

It may be important to consider different models of child care in order to make services more widely available and affordable, given mothers' quality expectations and choices during focus group discussions. The mothers in focus groups were provided with two different quality levels of service provision and were asked to rate the two models, and also to provide an estimate on their willingness to pay for the two models. The basic model of provision received on average a decent score of 3.6 out of 5 by mothers with less than high school degree (note that this group of women makes up 68 percent of women older than 15 in Turkey). Their average willingness to pay for the basic model was 118 TL per month. Only university graduate women were not pleased with the offerings of the basic model, their rating for the model was 2 points out of 5 (High school graduates rated the basic model 3.1 out of 5). These findings suggest, there is a wide group of mothers in urban city centers that need the services, and would be satisfied with (and be able to pay for) a more basic model of services. It is therefore advisable to redefine such a model according to the expectations of this group of mothers (and fathers) who have expressed a need for child care services and a certain willingness to pay for them.

➤ **Mismatch of Prices and Willingness to Pay**

The supply side survey has collected detailed information on the cost structure and prices of public and private care centers in 5 provinces of Turkey. The data was analyzed in terms of the main cost drivers and in terms of the determinants of prices. In terms of investment costs, renovation and set-up costs, and in terms of operating costs rental costs make up a significant amount of costs of running private care centers. On average rent constitutes 27 percent of total operating costs in provinces outside of Istanbul and in Istanbul it constitutes an even higher share of operating costs of private centers with 34 percent.

While for privately provided services, prices are positively correlated with infrastructure quality, for publicly provided services we cannot find an association between infrastructure quality and prices. Overall quality index on the contrary is not associated with higher prices for private care centers and instead prices are mainly driven by infrastructure and building costs for private care centers. Going one more step further in the analysis of the determinants of prices, controlling for both infrastructure quality, and welfare level of "location" it is found that prices are *mainly determined* by location and real estate costs, and that after controlling for location effects, quality (even infrastructure quality) does not have a strong association with prices of private providers. This is a strong finding that indicates that prices charged in the private market reflect a strong pass-through from the real estate and rental market, and do not necessarily reflect better learning, stimulation or well-being of children enrolled in these centers.

The difference between willingness and ability to pay for services by most households in the sample, and the current prices of private services is too wide – explaining levels of low utilization of child care and preschool services in spite of high demand expressed in focus group discussions. The service provider survey data shows that the median prices charged by private care centers were about 700 TL per month for full day, and 500 TL for half time prices. For public facilities, these levels are 300 TL and 100 TL respectively. On the other hand the willingness to pay on the part of households for these services is on average 259 TL per month for full day services, and –not surprisingly - the level varies widely by welfare level of household and indicators of socio-economic status of household such as educational attainment of mother. For instance, while on average university graduate women are willing to pay 625 TL for full day services, this level is 301 TL for a woman with high school education degree, and 143 TL for a woman with basic education.

The difference between the earnings (or potential earnings) of women and the cost of day care and preschool services is also quite low, reducing incentives for women to use day care services to enter the labor market. Many parents in the focus group discussions have expressed a willingness and need to enroll their children in preschool and day care services (particularly after age 3), but the gap between currently available privately provided services (that would enable mothers to participate in the labor market), and the amount households are able and willing to pay is currently too wide. A woman with a basic education degree in the sample has average actual earnings of 606 TL and she is willing to pay 143 TL on average for each child enrolled in full-day care. The willingness to pay (for a mother who has completed 8 years of schooling) for one child is, therefore, only about one-fifth of the median price currently offered by private providers in the market (not including transportation and additional costs) and her earnings do not cover the full day price of private centers (Median price for full day private care is 700 TL). For a woman with a high school degree, the average actual earnings is 1076 TL and her willingness to pay for care is 301 TL making 43 percent of the market price for one child. Hence with two children her earnings do not cover the market prices for child care.

SOME CONCLUDING REMARKS AND POLICY IMPLICATIONS

High cost of child care reduces women's incentives to join the labor market.

In order to increase female labor force participation, public policy should aim to increase the economic incentive for participating in the labor market: by reducing the earnings difference between what a woman is likely to make in the labor market (her potential earnings) and the cost of care. One way to do this is to subsidize the cost of existing services for working mothers, and another way to approach the problem is to reduce prices by making the legislation around setting up of community-driven or privately provided services more flexible such that services become more widely and more affordably available to households. Early childhood education and care services need to be provided at *reasonable* quality standards, in order to be more widely available at more affordable costs and be utilized by more women and children.

A demand side subsidy - on its own - may not solve Turkish women's child care problem, and should accompany increased supply side provision, and in a targeted way.

Without resolving the problems associated with child care provision in the supply of services, and fixing the "economic" problems behind high costs of service provision, such as barriers to entry due to overregulation and strict standards – subsidizing services on the demand side is not likely to provide high returns on investment (in terms of number of women activated into the labor market). A demand side subsidy, on its own, is also likely to end up being regressive in the short term (benefiting mainly the women who already have access to child care). A microsimulation exercise has shown that such a demand-side-only cash transfer may have a small impact on increasing formal female labor force participation at high cost⁹⁴. This being said - in order to reach children in lower income groups, who would also benefit most from participating in ECCE, a targeted subsidy can be devised to make services more affordable – though it is important to phase in such a subsidy *once* the supply constraints are addressed.

Turkey needs a new model of child care aligned with child wellbeing and household expectations.

In order to tackle the real problem of accessing affordable and quality child care, a program that has a new model should be devised (based on the expectations of mothers and fathers collected in demand side survey) - that will be affordable to a larger group of the population. Once this neighborhood model is widely available in the market – through public or private provision – those households who have difficulty in accessing these services should – in the second stage of the program - also be targeted through a demand side transfer that enables their access to the service. Through a new child care and preschool model, with different standards - informed by the choices of mothers and fathers who will actually use the services – early childhood education and care provision will be more widely available locally in neighborhoods and in work places, improving equality of opportunities offered to children in the early ages and expanding the possibilities of women to enter the labor market – and have the choice to lead productive lives also outside of their homes.

⁹⁴ Source: Aran, Immervoll, Ridao-Cano (2014)

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TECHNICAL NOTES

TECHNICAL NOTE 1 METHODOLOGY FOR UNSERVED NEED ESTIMATIONS

The Turkish Ministry of Family & Social Planning (MOFSP) and the Turkish Ministry of National Education (MONE) provided the data on enrollment at child care centers by District⁹⁵. These data indicate that 1.1 million children age 3 to 5 years are enrolled in child care and preschool facilities⁹⁶. The Turkish Statistical Institute estimates the population of children ages 3 to 5 years to be 3.8 million. Therefore, 2.7 million or 71 percent of children ages 3 to 5 are not enrolled in a child care or preschool facility. We estimate that Turkey would need 58,380 additional child care facilities to support the population of children ages 3 to 5 years. This estimate is calculated for each province separately and added up over provinces as highlighted in the below table. Steps in the estimation are as follows:

1. First, the number of unserved children are calculated for each province by subtracting the total number of enrolled children in preprimary from the total number of children in age group 3-5 in the province. This is the unserved number of children in the province if the target is to reach 100 percent gross enrolment.
2. Secondly, this number is then divided at the province level, by the average number of children enrolled per facility in the province, in order to give an estimate on the number of facilities that need to be established in order to cover all unserved children.
3. Thirdly, the exercise is then repeated again with the OECD average enrolment rate (80.6 percent) as the enrolment target that needs to be reached.
4. Fourth, the total number of facilities is calculated to reach the OECD average enrolment rate by dividing the total number of unserved children in step 3 with the average number of enrolled children in the province per facility.
5. In the final step, in order to get the Turkey total for the unserved number of children and the total number of facilities needed to cover the gap, we sum up the figures from all provinces.

As an example, Istanbul Province has a total of 667,059 children in age group 3-5 and an average of 59.6 children per child care center. There is an estimated 515,129 children not enrolled in school. Istanbul would need an additional 8,643 schools to support this population $(667,059 - 151,930) / 59.6 = 8,643$ of children and reach 100 percent gross enrolment. It would be necessary to build 6,471 facilities in order to reach the OECD average of 80.6 percent gross enrolment $((667,059 \times 80.6/100) - 151,930) / 59.6 = 6,471$

⁹⁵ Note that there is a slight discrepancy between numbers of children enrolled reported in Table 1 at the national level and in the table here provided at the province level. The enrolment numbers at the province level are calculated using district level data provided by the Ministry of Education and Ministry of Family and Social Policies in April 2014. The national level enrolment figures in Table 1 are taken from Ministry of Education National Education Statistics Yearbook 2013-2014 (www.sgp.meb.gov.tr).

⁹⁶ Note that the calculation assumes that students in child care centers are ages 3 to 5 years (36 to 71 months). Hence this is a lower bound estimate for total unmet need (as some of the children assumed to be enrolled in the 3-5 age category may indeed be in the 0-2 age category).

Table 1: Number of Children Not Enrolled in Preschool or Child Care Facilities by Province (as of April 2014)

ID	Name of Province	Number of Children (Age Group 0 to 5)	Number of Children (Age Group 3 to 5)	# of Service Providers	Total Enrollment	Gross Enrolment Rate in Preprimary for children in Age Group 3 to 5	Average Enrollment Per Facility	Unserved Number of Children: to reach 100 % enrolment for children ages 3-5	Unserved Number of Children: to reach Enrolment Rate average of 80.6 percent in OECD Countries	Number of Facilities (to reach 100% enrolment)	Number of Facilities (to reach OECD average enrolment)
		<i>T</i>		<i>N</i>	<i>E</i>	$= E / T$	$= E / N$	$= T - E$	$= (T \times 0.806) - E$	$= (T - E) / (E / N)$	$= (T \times 0.806) - E / (E / N)$
1	Adana	225,321	114,464	512	30,192	26.4%	59.0	84,272	62,066	1,429	1,053
2	Adiyaman	72,515	36,148	300	9,465	26.2%	31.6	26,683	19,670	846	623
3	Afyonkarahisar	64,161	32,605	321	9,540	29.3%	29.7	23,065	16,740	776	563
4	Ağrı	86,983	42,274	306	8,556	20.2%	28.0	33,718	25,517	1,206	913
5	Aksaray	40,188	20,507	174	5,574	27.2%	32.0	14,933	10,955	466	342
6	Amasya	24,442	12,593	134	6,426	51.0%	48.0	6,167	3,724	129	78
7	Ankara	434,900	221,663	1,073	73,003	32.9%	68.0	148,660	105,657	2,185	1,553
8	Antalya	198,510	101,029	676	42,706	42.3%	63.2	58,323	38,723	923	613
9	Ardahan	9,180	4,630	73	1,473	31.8%	20.2	3,157	2,259	156	112
10	Artvin	11,682	5,828	61	2,201	37.8%	36.1	3,627	2,496	101	69
11	Aydın	78,234	39,720	358	13,986	35.2%	39.1	25,734	18,028	659	461
12	Balıkesir	76,944	38,889	373	13,052	33.6%	35.0	25,837	18,293	738	523
13	Bartın	13,120	6,839	68	2,258	33.0%	33.2	4,581	3,254	138	98
14	Batman	81,869	41,420	245	9,557	23.1%	39.0	31,863	23,828	817	611
15	Bayburt	7,000	3,559	41	1,058	29.7%	25.8	2,501	1,811	97	70
16	Bilecik	15,653	7,851	54	2,994	38.1%	55.4	4,857	3,334	88	60
17	Bingöl	30,372	14,915	132	3,735	25.0%	28.3	11,180	8,286	395	293
18	Bitlis	48,492	24,147	220	6,141	25.4%	27.9	18,006	13,321	645	477
19	Bolu	20,892	10,544	78	3,830	36.3%	49.1	6,714	4,668	137	95
20	Burdur	17,813	9,164	115	3,962	43.2%	34.5	5,202	3,424	151	99
21	Bursa	244,227	123,300	628	39,798	32.3%	63.4	83,502	59,582	1,318	940
22	Çanakkale	31,785	15,880	148	6,411	40.4%	43.3	9,469	6,388	219	147
23	Çankiri	13,973	7,154	57	2,598	36.3%	45.6	4,556	3,168	100	70

24	Çorum	42,273	21,582	168	6,818	31.6%	40.6	14,764	10,577	364	261
40	Istanbul	1,329,594	667,059	2,549	151,930	22.8%	59.6	515,129	385,720	8,643	6,471
26	Diyarbakir	232,299	114,407	741	28,490	24.9%	38.4	85,917	63,722	2,235	1,657
27	Düzce	30,189	15,472	150	5,115	33.1%	34.1	10,357	7,355	304	216
28	Edirne	24,319	12,063	122	4,790	39.7%	39.3	7,273	4,933	185	126
29	Elazığ	52,699	26,935	191	8,190	30.4%	42.9	18,745	13,520	437	315
30	Erzincan	18,056	8,869	94	3,222	36.3%	34.3	5,647	3,926	165	115
31	Erzurum	84,307	41,588	393	11,045	26.6%	28.1	30,543	22,475	1,087	800
33	Gaziantep	264,784	132,054	435	29,627	22.4%	68.1	102,427	76,809	1,504	1,128
67	Samsun	103,488	53,221	506	17,945	33.7%	35.5	35,276	24,951	995	704
34	Giresun	28,427	14,734	139	5,826	39.5%	41.9	8,908	6,050	213	144
35	Gümüşhane	10,778	5,513	49	1,389	25.2%	28.3	4,124	3,054	145	108
36	Hakkari	34,659	17,383	97	2,723	15.7%	28.1	14,660	11,288	522	402
37	Hatay	175,769	89,547	591	37,614	42.0%	63.6	51,933	34,561	816	543
38	İğdir	24,849	12,147	103	3,305	27.2%	32.1	8,842	6,485	276	202
39	Isparta	31,786	16,426	183	6,525	39.7%	35.7	9,901	6,714	278	188
25	Denizli	78,491	40,145	338	16,650	41.5%	49.3	23,495	15,707	477	319
41	İzmir	313,541	157,638	977	53,234	33.8%	54.5	104,404	73,822	1,916	1,355
42	K. Maraş	130,204	66,241	398	16,189	24.4%	40.7	50,052	37,201	1,231	915
43	Karabük	15,111	7,828	62	2,885	36.9%	46.5	4,943	3,424	106	74
44	Karaman	21,786	11,103	99	4,024	36.2%	40.6	7,079	4,925	174	121
45	Kars	36,652	18,479	235	4,581	24.8%	19.5	13,898	10,313	713	529
46	Kastamonu	24,583	12,536	103	3,864	30.8%	37.5	8,672	6,240	231	166
47	Kayseri	133,706	68,161	369	18,584	27.3%	50.4	49,577	36,354	984	722
48	Kilis	15,011	7,542	66	2,078	27.6%	31.5	5,464	4,001	174	127
49	Kirikkale	20,495	10,762	74	3,240	30.1%	43.8	7,522	5,434	172	124
50	Kirklareli	20,643	10,533	96	4,353	41.3%	45.3	6,180	4,137	136	91
51	Kirşehir	17,041	8,733	88	3,168	36.3%	36.0	5,565	3,871	155	108
52	Kocaeli	163,318	82,799	379	26,446	31.9%	69.8	56,353	40,290	808	577
53	Konya	207,144	104,535	692	30,066	28.8%	43.4	74,469	54,189	1,714	1,247
54	Kütahya	40,541	20,689	195	7,077	34.2%	36.3	13,612	9,598	375	264
55	Malatya	73,104	37,579	256	11,863	31.6%	46.3	25,716	18,426	555	398
56	Manisa	111,541	56,066	459	17,841	31.8%	38.9	38,225	27,348	983	704
57	Mardin	113,383	55,935	367	11,224	20.1%	30.6	44,711	33,860	1,462	1,107

58	Mersin	164,657	83,792	538	35,951	42.9%	66.8	47,841	31,585	716	473
59	Muğla	66,686	33,958	367	13,118	38.6%	35.7	20,840	14,252	583	399
60	Muş	62,008	31,049	258	7,004	22.6%	27.1	24,045	18,021	886	664
61	Nevşehir	24,883	12,712	124	5,147	40.5%	41.5	7,565	5,099	182	123
62	Niğde	35,063	17,898	159	5,360	29.9%	33.7	12,538	9,066	372	269
63	Ordu	57,029	29,628	248	9,569	32.3%	38.6	20,059	14,311	520	371
64	Osmaniye	55,976	28,840	195	8,476	29.4%	43.5	20,364	14,769	468	340
65	Rize	25,041	12,734	107	4,408	34.6%	41.2	8,326	5,856	202	142
66	Sakarya	79,523	40,497	343	14,335	35.4%	41.8	26,162	18,306	626	438
32	Eskişehir	55,456	28,087	181	10,573	37.6%	58.4	17,514	12,065	300	207
68	Şanlıurfa	321,759	156,687	853	39,118	25.0%	45.9	117,569	87,172	2,564	1,901
69	Siirt	47,245	23,764	203	7,520	31.6%	37.0	16,244	11,634	439	314
70	Sinop	14,233	7,298	69	2,483	34.0%	36.0	4,815	3,399	134	94
71	Şirnak	78,910	39,202	234	8,301	21.2%	35.5	30,901	23,296	871	657
72	Sivas	55,090	28,214	209	7,477	26.5%	35.8	20,737	15,263	580	427
73	Tekirdağ	75,192	37,564	211	12,139	32.3%	57.5	25,425	18,138	442	315
74	Tokat	48,375	25,094	293	7,906	31.5%	27.0	17,188	12,320	637	457
75	Trabzon	60,870	31,331	268	11,730	37.4%	43.8	19,601	13,523	448	309
76	Tunceli	5,241	2,478	23	1,281	51.7%	55.7	1,197	716	21	13
77	Uşak	26,864	13,580	124	4,653	34.3%	37.5	8,927	6,292	238	168
78	Van	164,013	81,265	654	22,228	27.4%	34.0	59,037	43,272	1,737	1,273
79	Yalova	16,886	8,704	69	3,138	36.1%	45.5	5,566	3,877	122	85
80	Yozgat	37,731	19,948	210	5,551	27.8%	26.4	14,397	10,527	545	398
81	Zonguldak	45,629	24,010	204	6,970	29.0%	34.2	17,040	12,382	499	362
	TURKEY	7,497,187	3,779,761	24,055	1,114,873	29.5%	46.3	2,664,888	1,931,614	58,380	42,388

TECHNICAL NOTE 2 DETERMINANTS OF CHILD CARE AND PRESCHOOL CAPACITY BY PROVINCE

The table below provides a multiple regression looking at the determinants of the number of child care and preschool facilities in a province controlling for the population level, population percentage of children (ages 0-6), population density, female literacy levels and province level welfare indicators.

Ratio of children aged 0-5 to the whole population is found by summing the total number of children aged 0 to 5 and then dividing by the province population. The variable takes values between 0 and 1. Population density is reported by TUIK and is the number of people per square km. Female literacy rate is found by dividing total number of literate women (aged 15 and above) by the total number of women (aged 15 and above) in the province. The variable takes values between 0 and 1. Lastly the ISBANK development index uses 49 criteria, put together from different data sources. The index ranges between 36.56 for Istanbul and -3.15 for Hakkari.

Results indicate that a higher ratio of children aged 0-5 is significantly and positively correlated with the number of child care centers in the province. In provinces where population is higher, it is slightly more likely to have more child care centers, but the correlation is quite weak, while population density seems to have a significant negative association with child care capacity (See column 2). Female literacy rate is also positively correlated with number of child care centers in the province (See column 3). Lastly, development index that was constructed by Is bank, is also positively associated with number of child care centers in the province, controlling for ratio of children aged 0-5 to the whole population (See column 4). But when female literacy rate and population density are controlled for in the regression, the province level development index loses its positive coefficient (and in fact takes on a negative coefficient) indicating that the female literacy rate (and female labor force participation⁹⁷ as proxied by the literacy rate) is a stronger determinant of child care capacity (see column 5).

Table: Multiple Regression looking at the determinants of Child Care Capacity By Province

Dependent variable: Number of preschool or child care facilities in province

	(1)	(2)	(3)	(4)	(5)
Ratio of children aged 0-5 to the whole population	2,531*	1,739***	2,689***	4,104***	2,260***
	(1,458)	(288.0)	(454.9)	(511.9)	(445.0)
Population density		-0.575***	-0.534***		-0.486***
		(0.0686)	(0.0679)		(0.0653)
Population		0.000302***	0.000290***		0.000370***
		(1.22e-05)	(1.26e-05)		(2.64e-05)
Female literacy rate			646.2**		1,010***
			(245.2)		(253.8)
Is Bank Development Index				72.10***	-32.90***
				(3.010)	(9.728)
Constant	88.05	-52.55*	-717.6***	-62.05	-1,085***
	(145.1)	(28.70)	(253.8)	(50.90)	(261.7)
Observations	81	81	81	81	81
R-squared	0.037	0.964	0.967	0.885	0.971

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source data: TUIK for all variables except the development index. Source for Is Bank development index:

http://ekonomi.isbank.com.tr/UserFiles/pdf/ar_03_2012.pdf. All variables except Is Bank Development Index are for 2013, while the index is for 2012.

⁹⁷ Data on female labor force participation does not exist at the province level, hence female literacy rate was used in these regressions as a proxy for that variable.

TECHNICAL NOTE 3 DESCRIPTION OF DATA INSTRUMENTS FOR TURKEY CHILD CARE STUDY

A. SUPPLY SIDE

A.1 SUPPLY SIDE SERVICE PROVIDER QUANTITATIVE SURVEY

The supply side service provider quantitative survey was conducted in 5 cities between May 15 and July 11, 2014. Data from a total of 603 schools and care providers were collected in Istanbul, Denizli, Eskişehir, Samsun and Gaziantep. The sample of care providers consisted of those that provided any type of care services, and included:

- Pre-school classrooms in primary schools
- Public independent pre-schools including those (registered with MONE or MoFSP Child Services), and local municipalities.
- Private providers – accredited private providers through MONE or MoFSP Child Services.
- Community providers – including cooperatives, neighborhood associations, non-profit (NGO) providers.

Among the schools where the survey was collected 42 percent are independent preschools or day care centers⁹⁸. The survey has been collected from schools with different levels of enrolment. 43 percent of schools have enrolment ranging between 30 to 60 students.

The supply side service provider quantitative survey consisted of 8 modules: (1) Information about child care service provider, (2) Availability and enrolment, (3) Pricing and costing, (4) Human resources, (5) Daily routines, (6) Family involvement, (7) Regulations and standards, (8) Observations in the child care facility

The first seven of these modules included questions asked to the person in charge at the schools, while the final module included observation to be undertaken by the enumerator at the facility. Following the pilots some changes were made in both parts.

The overall timeline for data collection was as follows:

Table 1 Timeline for Data Collection

The first (PAPI) supply pilot	May 6, 2014
The second (CAPI) supply pilot	May 9, 2014
Enumerator training	May 12, 2014
Start of Supply Assessment Field	May 15, 2014
End of Supply Assessment Field	June 20, 2014
Decision to conduct additional surveys in Samsun and GAntep	June 30, 2014
End of Supply Assessment Field (with additional surveys)	July 11, 2014

⁹⁸ The study has oversampled independent institutions as the costing and pricing structure of such facilities were of primary interest to the policy makers. Only 40 percent of public preschool classes in these provinces were included in the pre-sample of addresses provided to survey enumerators in order to limit the number of preschool classrooms within primary schools included in the sample. As a result in our sample, only 54 percent of facilities are public preschool classrooms within primary schools whereas in the national level data 77 percent of facilities are located within primary schools.

A.2. MAPPING EXERCISES METHODOLOGY

In this study, we spatially analyzed 1,825 child care centers provided by MOFSP and 22,673 child care centers provided by MONE. The data is mapped by **address, province and district** using Geographical Information Systems (GIS). Data is also mapped at the district level using NUTS boundaries.

For each child care center, MOFSP and MONE provided the institution name, institution type (public or private), enrollment, facility type (whether the facility is independent or located within a primary school), address, and contact information. The data was aggregated by district and province to create maps depicting the quantity of schools by institution type and facility type.

We joined the data on child care centers with population estimates by age, provided by the Turkish Statistical Institute via their address-based population registration system (current as of 31.12.2013). This enabled us to compare the number of children in each district to the number of schools.

The GIS data used to create the maps was extracted from the GADM database (www.gadm.org, version 2.0, December 2011) and includes boundaries for provinces and districts in Turkey using 2010 boundaries. Since 2010, some districts were split into 2-3 separate districts. To ensure compatibility with all data sources, district-level data from MONE, MOFSP, and Census were aggregated to reflect the GADM 2010 boundaries. GIS shape files for the NUTS regions were created using the district boundaries from the GADM database.

Spatial Analysis for 5 provinces

Child care centers in Denizli, Eskisehir, Istanbul, Gaziantep, and Samsun are mapped at the address-level, which means that each child care center is represented at its actual location on the map. The MOFSP and MONE child care center datasets include 4,038 child care centers in the above five provinces. Development Analytics underwent a process to map child care center by address using GIS.

Through the mapping process, we were able to accurately map 3,903 or 97 percent of the 4,038 addresses provided by MONE and MOFSP. Of the 3,903, 3,322 (82 percent) were mapped at the address-level, 514 (13 percent) at the neighborhood level, 57 (1 percent) at the district level, and 10 (0.2 percent) at the province level. The following were the steps taken to map the child care centers using GIS.

- *Step 1: Identify latitude and longitude coordinates for each address.* We used an open-source website, www.findlatitudeandlongitude.com, to convert child care center addresses to latitude and longitude coordinates. This process is called geocoding.
- *Step 2: Cleaning Addresses.* The geocoding program ranks the accuracy of the conversion on a scale of 0 to 10. A low score indicates that the address could not be located. In some cases, the address has a formatting error or is missing information. In other cases, the map database does not have coordinate information for the specified address or cannot locate the specified address.
 - Of the **4,038 addresses, 2,138 received an accuracy score of 5 or below**, mostly concentrated in **Samsun, Eskisehir, and Gaziantep**. These addresses underwent a process of cleaning to identify errors (i.e. formatting errors, province or district mislabeled, or missing information).
- *Step 3: Identifying incomplete addresses.* If the address is incomplete, Development Analytics did further research using google maps, the school's website, or a phone call to obtain the correct location. In cases where Development Analytics confirmed the location of the school but could not obtain an address that is able to be mapped, a proxy address for a nearby landmark is used. If an address could not be located, Development Analytics applied the coordinates for the neighborhood, district, or province.
- *Step 4: Creating the map.* The addresses with their coordinates were loaded into GIS, where we were able to create maps of child care centers for each of the five provinces. The visualization of this data allows us to identify clusters in each province. It also allowed us to do an additional review to identify any addresses that

were mapped incorrectly. The data was integrated with district and province-level census data to allow a better understanding on supply and demand.

B. DEMAND SIDE:

In order to assess the demand for child care in Turkey two major pieces of research was undertaken: Household Survey and Focus Group Discussions.

B.1. TURKEY CHILD CARE STUDY DEMAND SIDE QUANTITATIVE HOUSEHOLD SURVEY

The household surveys were conducted in 5 cities between April 26 and May 23, 2014 with mothers of 0-6 years old children.

The main aim of the household surveys was to recruit participants for the Focus Group Discussions. The survey also aimed to collect basic information about the participant to support qualitative analysis.

The subjects for the household surveys were selected according to three typologies that were determined for the 18 mothers' focus groups: (i) working mothers, (ii) non-working mothers and (iii) in provinces other than Istanbul mothers from rural villages - where households are primarily engaged in agriculture.

A total of 371 surveys were completed with mothers of 0-6 year old children in the cities of Istanbul, Denizli, Eskişehir, Samsun and Gaziantep. Due to population density, more surveys were conducted in Istanbul than other cities (*please see table below*).

Table 2: Demand Side Household Surveys Number of Respondents

Group Type	Istanbul Bağcılar	Istanbul Beyoğlu	Istanbul Kadıköy	Denizli	Eskişehir	Samsun	Gaziantep	Total # of Surveys
Working mothers	20	20	21	20	20	24	21	146
Non-working mothers	20	22	20	22	21	19	23	147
Rural mothers	n/a	n/a	n/a	19	17	20	23	78
TOTAL # of Surveys	40	42	41	61	58	63	66	371

In Istanbul 3 districts were selected to represent different socioeconomic groups.

- One medium-high income neighborhood in Istanbul (Kadıköy)
- Two middle and low income neighborhoods in Istanbul (Beyoğlu and Bağcılar)

Outside of Istanbul, in each city 2 central districts were selected and in these districts the neighborhoods with the highest probability of having children in age group 0-6 were visited for the household surveys. Moreover, in order to reach also to rural mothers, a village was selected in each of the four Anatolian cities. The selection for the villages was made according to the following criteria: socio-cultural characteristics, population, and available means of transportation.

The first pilot surveys were held in Beyoğlu with working and non-working mothers. In addition to being used as an instrument to recruit participants for the first (pilot) focus group discussion, these two surveys have also been used to improve the questionnaire for the subsequent surveys. Following the pilot, the wording and order of some questions were changed and a section on respondents' husbands was added to the questionnaire. The improved questionnaire was used for the rest of the data collection effort. The Beyoğlu subjects in the pilot were re-contacted and their responses were updated via telephone by the field staff.

B.2. TURKEY CHILD CARE STUDY DEMAND SIDE FOCUS GROUPS⁹⁹

Focus groups were held during May and June 2014.¹⁰⁰ A total of twenty-five focus groups were conducted in Istanbul, Denizli, Eskişehir, Samsun and Gaziantep.

The participants for focus groups were selected according to four typologies, each with children of ages 0 to 6 years: (i) working mothers, (ii) non-working mothers and (iii) fathers in the neighborhoods. In provinces other than Istanbul, they were also in (iv) rural villages - where households are primarily engaged in agriculture. The participants were determined via individual household surveys (*please see table below for a summary of focus groups*).

Table 3: Summary of Focus Groups held in five provinces

Group Type	Istanbul Bağcılar	Istanbul Beyoğlu	Istanbul Kadıköy	Denizli	Eskişehir	Samsun	Gaziantep	Total # of Groups
Working mothers	1	1	1	1	1	1	1	7
Non-working mothers	1	1	1	1	1	1	1	7
Fathers	1	1	1	1	1	1	1	7
Rural mothers				1	1	1	1	4
TOTAL # of Groups	3	3	3	4	4	4	4	25

A total of 199 people participated in the groups; 146 mothers and 53 fathers (*please see table below*). Groups ranged in size from seven to nine participants and each group lasted from 110 to 150 minutes depending on the intensity of the discussion.¹⁰¹

Table 4: Focus Groups by number of participants

Group Type	Istanbul Bağcılar	Istanbul Beyoğlu	Istanbul Kadıköy	Denizli	Eskişehir	Samsun	Gaziantep	Total # of participants
Working mothers	9	8	8	9	8	7	7	56
Non-working mothers	9	7	8	9	7	8	8	56
Fathers	8	7	8	7	7	7	9	53
Rural mothers				8	8	9	9	34
TOTAL # of Participants	26	22	24	33	30	31	33	199

The groups were conducted at facilities that were familiar and easily accessible to the participants.

⁹⁹ A more detailed account of methodology was provided in the Field Report.

¹⁰⁰ The first group that was also treated as the pilot was held on May 5. The remaining twenty four groups were held between May 14 and June 14, 2014.

¹⁰¹ Each group was homogenous in terms of the group typology, but varied according to educational attainment, household income and utilization of child care services as well as having/not having previous employment experience for non-working mothers.

In guiding the discussions the parent focus group topic guide that was approved by the World Bank and the MoFSP was used. The focus groups used a semi-structured format that ensured all key topics were covered but that also allowed the researchers to respond to specific points of interest.¹⁰²

Accordingly the participants were first invited to discuss their child care responsibilities and the effects of this on their lives and work/study decisions, then were asked to reflect on the societal norms around motherhood, child care and working women, and finally were invited to discuss their opinions about using and expectations from child care services. In this final part the participants were asked to play a simple simulation game that was called “Design your own Kindergarten” which sought to understand their concrete quality expectations from child care services, their priorities and their willingness/affordability to pay. In some groups vignettes were used to stimulate a more lively discussion on certain topics.

¹⁰² Depending on observations from previous debriefs, such as research needs or repeating/missing themes, different issues from the guide were prioritized and inquired across different groups. For example, guided by earlier findings, in the latter groups more emphasis was given to understanding parents’ expectations regarding support staff and the kind of service they would expect of them. Similarly, in groups, which included relatively more mothers of 0-2 year olds, priority was given to understanding child care needs and expectations for this particular age group.

TECHNICAL NOTE 4 REGRESSION ANALYSIS ON THE DETERMINANTS OF VACANCIES AT SERVICE PROVIDERS

Dependent variable: Percentage of spots vacant at service provider (continuous variable and varies between 0 and 1)

	(1)	(2)	(3)
VARIABLES	Vacancies % ages: 0-2	Vacancies % ages: 3-6	Vacancies % all ages
Service provider is private	0.362** (0.147)	0.159*** (0.0302)	0.175*** (0.0314)
Monthly price	-2.90e-05 (0.000158)	-8.06e-06 (3.15e-05)	1.95e-06 (3.27e-05)
Neighborhood welfare: Medium	0.142 (0.0927)	0.0217 (0.0367)	0.0351 (0.0380)
Neighborhood welfare: Low	0.150 (0.235)	0.0193 (0.0523)	0.0372 (0.0542)
Total capacity for ages: 0-2	0.00457*** (0.00110)		
Total capacity for ages: 3-6		0.000846*** (0.000297)	
Total capacity for all			0.00111*** (0.000293)
Constant	-0.200 (0.194)	0.0681 (0.0531)	0.0186 (0.0549)
Observations	71	444	446
R-squared	0.293	0.086	0.112

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source data: Turkey Child care Assessment Supply Side Dataset

TECHNICAL NOTE 5 PERCENT OF CARE SERVICE PROVIDERS THAT OPERATE IN THE MENTIONED SLOTS, FOR EACH AGE GROUP

Percent of care service providers that operate in the mentioned slots, for each age group

Service times for age groups	1	2	3	4	5	6
All						
Only Full time	45.5	63	60	56.6	50.4	46.9
Full time with extended hours	0	0	0	0	0.2	0.3
Fulltime with morning and/or afternoon halfday (Without extended hours)	12.1	16	19.6	13.2	8	5.9
Fulltime with morning and/or afternoon halfday (With extended hours)	3	1.2	1.7	1.2	1.5	0
Morning halfday and afternoon halfday (Without extended hours)	21.2	9.9	11.1	16.4	26.7	34.8
Morning halfday and afternoon halfday (With extended hours)	0	0	0	0	0	0
Halfday service (With or without extended hours)	18.2	9.9	7.7	12.6	13	12.1
Public						
Only Full time	20	27.3	33.3	41.7	35.3	27.8
Full time with extended hours	0	0	0	0	0.4	0.6
Fulltime with morning and/or afternoon halfday (Without extended hours)	0	0	5.9	1.3	2.2	1.7
Fulltime with morning and/or afternoon halfday (With extended hours)	0	0	3.9	1.3	0.7	0
Morning halfday and afternoon halfday (Without extended hours)	60	54.5	37.3	30.8	41.9	52.3
Morning halfday and afternoon halfday (With extended hours)	0	0	0	0	0	0
Halfday service (With or without extended hours)	20	18.2	19.6	25	19.5	17.6
Private						
Only Full time	56.5	68.6	67.4	69.2	72.3	76.3
Full time with extended hours	0	0	0	0	0	0
Fulltime with morning and/or afternoon halfday (Without extended hours)	17.4	18.6	23.4	23.2	16.5	12.3
Fulltime with morning and/or afternoon halfday (With extended hours)	4.3	1.4	1.1	1.1	2.7	0
Morning halfday and afternoon halfday (Without extended hours)	4.3	2.9	3.8	4.3	4.8	7.9
Morning halfday and afternoon halfday (With extended hours)	0	0	0	0	0	0
Halfday service (With or without extended hours)	17.4	8.6	4.3	2.2	3.7	3.5

Source data: Turkey Child care Assessment Supply Side Dataset

TECHNICAL NOTE 6 CONSTRUCTION OF THE QUALITY INDEX

Quality index is a combination of 38 questions of the supply side survey. These questions are also used in making three sub-indices of quality. The sub-indices are infrastructure quality index, curriculum, materials and learning quality index and human resources quality index.

All the variables that were used to make up the indices are variables that takes values between 0 and 1. The index was then constructed using principal component analysis. Principal component analysis is a variable reduction technique and is employed to get a single score out of many correlated variables in order to ease the interpretation of a number of variables. One of the areas it is mainly used is creating a wealth index, like the one for Demographic and Health Surveys (DHS)¹⁰³. The idea is to give weights to the variables that go into the index and then come up with a single score by multiplying each variable with the associated weight and then summing them up for each individual/household. Using a set of correlated variables PCA extracts uncorrelated components. Each principal component is the weighted combination of the variables and there are as many components as there are variables. But the first principal component explains the largest amount of variation in the data, hence scores are predicted using weights of the first principal component. (For the analysis in this report "pca" command of the STATA was used.) Following this step, percentiles were created in order to standardize these scores to be between 1-100. Hence the observations are simply divided into 100 equally populated subgroups given their quality scores. Given that there 603 schools in the dataset, 6 schools with the lowest quality score will get a value of 1 (the worst) as their quality index and 6 schools with highest quality score will get a value of 100 (the best) as their quality index value.

All the questions that were used to make up the infrastructure quality index were the observations of the interviewer about the facility's conditions. These questions such as if there is sufficient indoor space for children and adults to move freely are answered as yes or no. Hence the variables that present these questions in the dataset are binary variables. A separate infrastructure index was calculated for care service providers which also serve to 0-2 year olds, since there are three separate questions about their infrastructures.

Curriculum, materials and learning quality index is composed of 9 questions. However the questions about parental involvement go as one variable such that the variable takes a value of 1 only if the provider has responded yes to all three of the questions about parental involvement (See parental involvement questions in Table 1). Other three questions ask if there is curriculum, if there is a daily routine, if the children are served food and if there are provisions for children with behavioral and other needs in the facility. Hence all these variables are binary variables again. And last two questions are again the observations of the interviewer and they are about the sufficiency of age-appropriate toys and if there is proper storage space for them.

Lastly, for the construction of the human resources quality index 4 variables about teacher quality are included. The first two are percent of university graduate teachers (main & assistant caregivers) and percent of teachers with experience of more than 5 years among all other teachers in the facility. These variables take values between 0 and 1. Third variable that goes into the index is the caregiver to pupil ratio and is calculated by dividing total number of caregivers (main & assistant) by total number of enrolled children in the facility. This number is then divided by the highest value it takes, to make it change between 0 and 1 again. Last variable that goes into the HR index is if there is a designated staff member for each children group and again it takes a value of 0 or 1.

The variables that were explained in each of the sub-indices go together in the overall quality index. All sub-indices and the overall quality index take values between 1 and 100, which are the percentiles that they go into depending on their quality score (1 being the worst, 100 being the best). These percentiles are calculated by dividing the schools into 100 equally populated groups after ranking them according to their calculated scores coming from principal component analysis.

¹⁰³ The DHS Wealth Index, 2004. DHS Comparative Reports 6.

Table 1. Questions which were included in the quality index

Questions included	Infrastructure quality index	Materials, curriculum and learning quality index	HR quality index	Overall quality index
Observation at the care provider facility				
There is sufficient indoor space for children and adults to move freely	X			X
There is sufficient area per child in the playroom /classroom as well as in the sleeping room	X			X
There is 1 director room	X			X
There is 1 sleeping room	X			X
There are bunk beds enough for all children in the institution	X			X
Space is in good repair, clean and well-maintained.	X			X
All rooms receive day light	X			X
No malodor in the classrooms	X			X
Floors, walls, and other surfaces are made of easy to clean materials	X			X
There are sufficient number of clean, appropriately sized toilets for potty-trained children	X			X
Toilets, lavatories, sinks are well fixed to the walls	X			X
There is adequate temperature control(central heating)	X			X
There is sufficient outdoors space	X			X
The garden has a soft floor with enough grass and soil	X			X
The outdoors space is generally safe (for example, mats under swings, fenced area, etc.)	X			X
Doors and windows are childproof when appropriate (for example, windows can't open fully, heavy doors close slowly, etc.)	X			X
Safety covers are on all electrical outlets	X			X
Electrical cords are out of children's reach	X			X
Heavy equipment or furniture that could tip over is anchored	X			X
Railings on the stairs	X			X
Sharp furniture edges are cushioned	X			X
A ramp/platform in the entrance of the building/garden and railings on the steps for the children with physical disabilities	X			X
[Only for the schools with 0-3 years-old kids] Crawling space for 0-2 year old infants and baby changing unit	X			X
[Only for the schools with 0-3 years-old kids] there is a separate sleeping room and play room for the 0-2 years old infants	X			X
[Only for the schools with 0-3 years-old kids] There is a separate diaper area with supplies	X			X
There is a sufficient number of age-appropriate toys		X		X
There is organized and convenient storage for toys		X		X
Teachers				
% of university graduate teachers			X	X
% of teachers with experience more than 5 years			X	X
Caregiver to pupil ratio			X	X
Is a small group of children primarily cared for by one designated staff member?			X	X
Parental involvement				
Are there any regular activities to give feedback to parents about their children?		X		X
Are there any regular activities to receive feedback from parents?		X		X
Are there opportunities and provisions for parents to present and discuss additional needs?		X		X
Daily routine & Activities				
Is there a daily routine?		X		X
Is there an educational curriculum?		X		X
Are children served food?		X		X
Are there provisions for children with behavioral and other needs?		X		X

Table 2. Averages of the variables included in the quality indices for public and private schools and p-value as a result of the ttest.

Infrastructure Quality			
Building Infrastructure			
	Public	Private	P value
There is sufficient indoor space for children and adults to move freely	0.947	0.991	0.005***
There is sufficient area per child in the playroom /classroom as well as in the sleeping room	0.891	0.973	0***
There is 1 director room	0.926	0.987	0.001***
There is 1 sleeping room	0.204	0.912	0***
There are bunk beds enough for all children in the institution	0.233	0.885	0***
Space is in good repair, clean and well-maintained.	0.958	1	0.002***
All rooms receive day light	0.944	0.987	0.01***
No malodor in the classrooms	0.809	0.827	0.573
Floors, walls, and other surfaces are made of easy to clean materials	0.912	0.969	0.007***
There are sufficient number of clean, appropriately sized toilets for potty-trained children	0.942	0.987	0.007***
Toilets, lavatories, sinks are well fixed to the walls	0.894	0.973	0***
There is adequate temperature control(central heating)	0.682	0.969	0***
Building Infrastructure for ages 0-3			
Crawling space for 0-2 year old infants and baby changing unit	0.31	0.442	0.002***
There is a separate sleeping room and play room for the 0-2 years old infants	0.19	0.455	0***
There is a separate diaper area with supplies	0.405	0.582	0.003***
Security			
Doors and windows are childproof when appropriate (for example, windows can't open fully, heavy doors close slowly, etc.)	0.814	0.96	0***
Safety covers are on all electrical outlets	0.894	0.978	0***
Electrical cords are out of children's reach	0.947	0.996	0.002***
Heavy equipment or furniture that could tip over is anchored	0.907	0.982	0***
Railings on the stairs	0.95	0.991	0.007***
Sharp furniture edges are cushioned	0.743	0.912	0***
A ramp/platform in the entrance of the building/garden and railings on the steps for the children with physical disabilities	0.767	0.823	0.101
Garden and Open Space			
There is sufficient outdoors space	0.91	0.978	0.001***
The garden has a soft floor with enough grass and soil	0.676	0.969	0***
The outdoors space is generally safe (for example, mats under swings, fenced area, etc.)	0.931	0.991	0.001***
Curriculum, materials and learning quality			
Parental involvement			
There are regular activities to give feedback to parents about their children	0.918	0.949	0.165
There are regular activities to receive feedback from parents	0.846	0.924	0.007***
There are opportunities and provisions for parents to present and discuss additional needs	0.691	0.912	0***

Teaching materials			
There is a sufficient number of age-appropriate toys	0.931	1	0***
There is organized and convenient storage for toys	0.955	0.991	0.014**
Activities Routine			
There is a daily routine	0.915	0.96	0.033**
Food provided			
Food is provided to children	0.623	0.987	0***
Children with special needs			
There are provisions for children with behavioral and other needs	0.446	0.415	0.468
Curriculum			
There is educational curriculum	0.97	0.981	0.405
Human Resources Quality			
Teacher quality			
Percent of teachers with university degree	0.944	0.763	0***
Percent of teachers with experience more than 5 years	0.437	0.445	0.841
Care giver to pupil ratio	0.028	0.029	0.789
Designated staff member for child groups	0.796	0.928	0***

Note: *** p<0.01, ** p<0.05, * p<0.1

Source data: Turkey Child care Assessment Supply Side Dataset

TECHNICAL NOTE 7 LIST OF STANDARDS BY MONE AND MOFSP SERVICE PROVIDERS IN TURKEY

List of standards by MoFSP and MoNE accredited service providers in Turkey are listed below. In the context of this research, requirements are divided into 3 parts: infrastructure (physical requirements), human resources, and teaching materials and curriculum. There are some similarities, as well as differences in requirements of MoFSP and MoNE. MoNE standards are more clearly defined when compared to MoFSP. There are also major disparities in physical and curriculum requirements both for MoNE and MoFSP standards. Physical standards are more specifically described than any other categories.

Table 1. List of regulations and standards for MoFSP and MoNE accredited child care service providers

	MoFSP ¹⁰⁴	MoNE ¹⁰⁵
1.INFRASTRUCTURE		
1.1.LOCATION	at least 100 meters distance to pubs, coffee houses, electronic play centers and the places where alcohol is served safe setting and convenient transportation	at least 100 meters distance to pubs, coffee houses, electronic play centers and the places where alcohol is served (ii)
1.2.BUILDING	detached or at the ground floor of a multi-floor building or at a floor having connection with the ground floor a separate entrance/gate for the children if the institution is also a service provider for the children older than 5 years	in a school building having garden or at the ground floor of a multi-floor building or at a floor having connection with the ground floor (iii) a water reservoir meeting one day-water-need in case of water cut (iv)
1.3.INDOOR SPACE		
1.3.1.AREA PER CHILD	min. 2 m ² space and 6 m ³ air per child in the playroom /classroom as well as in the sleeping room	min. 1,5 m ² per child in the classroom (iv)
1.3.2.ROOMS/DESIGN	1 director room	1 director room (min. 10 m ²) (iv)
	1 sleeping room	1 sleeping room 10 m ³ and 3 m ² per child (not obligatory) (iv)
	<i>Not specified</i>	1 play room (min. 15 m ²) (iv)
	Crawling space for 0- 2 year old infants and baby changing unit	<i>Not specified</i>

¹⁰⁴ All standards in this column are based on a sole regulation named "Regulation on the Establishment and Functioning Principles for Private Creches and Day Care Centers" issued by MoFSP.

¹⁰⁵ MoNE standards in this column are based on various regulations. Please see "MoNE Decision on Courses and Additional Courses of Managers and Teachers" for (i), "MoNE Law On Private Education Institutions No:5580" for (ii), "MoNE Regulation On Special Education Institutions" for (iii), "MoNE Directive On Private Education Institution Standards" for (iv), "MoNE Pre-School Education Institutions Child Clubs Directive" for (v), "MoNE Regulation On Pre-School Education Institutions" for (vi) as stated in the Reference List.

	1 kitchen with exhauster	1 dining room (not obligatory) (iv)
	1 toilet and 1 lavatory for every 10 children with appropriate size and safe fixation	1 appropriate-size toilet and 1 lavatory for every 30 children, 1toilet and 1 lavatory for every 30 teachers (separate for women, man and disabled) (iv)
	separate wardrobe for every child, a shoe rack and coat stand sufficient for all children	<i>Not specified</i>
	<i>No reference to children with special needs</i>	In special education schools: 1 director room (min. 10 m2) , 1 deputy director room (if more than 100 children in the school), 1 individual education room for every 20 child (min 6 m2), 1 sleeping room (not obligatory) 10 m3 and 3 m2 per child, 1 special ECD unit (not obligatory and min. 6 m2), 1 play room (min. 15 m2), 1 garden min. 1,5 m2 per child, 1 individualized education program development room, 1 dining room, 1 meeting room, 1 appropriate-size disabled-friendly toilet and 1 lavatory for every 20 children, 1 toilet and 1 lavatory for every 30 teachers (separate for women, man and disabled) (iv)
1.3.3. LIGHTING	all rooms receiving day light	Total area covered by windows in a classroom should be at least 10 % of base area of the classroom to ensure proper lightening (iv).
1.3.4. DOORS	<i>Not specified</i>	The width of the classroom doors 80 cm. If broader than 140 cm, the door should be two-winged (iv) No doorstep in the institutions for children with physical disabilities (iv)
1.3.5.STEPS	<i>Not specified</i>	broad enough considering the number of children in the institution (iv) a ramp/platform in the entrance of the building/garden and railings on the steps for the children with physical disabilities (iv) In special education schools and special education and rehabilitation centers, warning signs stacked to steps and ramps as well as materials preventing slipping (iv)
1.3.6. CEILING	<i>Not specified</i>	min. height 3 meters if less than 3 meters, 4.5 m3 per child for pre-schools and 7 m3 for special education schools is valid in registrations (iv)
1.3.7. FLOOR	covered with a material easy to be cleaned and not harmful for the	covered with a material easy to be cleaned and not harmful for

	health of children	the health of children (iv)
1.3.8.PAINTING	with materials easy to be cleaned	with materials easy to be cleaned (iv)
1.3.9. HEATING	Central heating (radiator) or air conditioner	Central heating (radiator) or air conditioner (iv)
1.4. OUTDOOR SPACE	the garden with a soft floor with enough grass and soil min. 1,5 m2 per child (the calculation exclude infants between 0-2 years old)	the garden with a soft floor with enough grass and soil min. 1,5 m2 per child for the development motor and cognitive skills (iv)
1.5.SAFETY/ SECURITY	no institution next to the building or in the same building producing and/or storing explosive and flammable materials a fire door and emergency stairway, sufficient number of fire extinguisher and fire warning appropriately fixed indoor and outdoor play materials, all windows and balcony doors with security keys as well as appropriately covered electricity buttons, plugs and cables a staff in the school bus to ensure safe transportation to school	Certificate from relevant public authorities indicating preparedness to fire (iii)
Total number of requirements on infrastructure	21	24
	MoFSP	MoNE
2. HUMAN RESOURCES		
2.1. EDUCATIONAL BACKGROUND	Director: four-years-university degree in Social Services, Psychology, Child Development and Education, Pre-School Education, Psychological Counseling OR two-years-university degree in Social Services, Child Development, Pre-School Education and min. two years work experience in public or private pre-school education institutions OR at least two years work experience as director in public/private pre-school, primary or secondary education institutions	Director: four-years university degree in educational sciences (vi)
	Group Coordinator: two-years or four-years university degree in Social Services, Psychology, Child Development and Education, Pre-School Education, Psychological Counseling OR Child Development and Education degree from Girls Vocational Education High School OR be a nurse (for 0-2 year infants group)	Teacher: four-years university degree in pre-school education or child development and education OR advanced university degree in a field relevant to pre-school education OR high school degree in child development plus university degree in any field plus certificate of framework program for pre-school education teachers (60 hours) (vi)
	Support Staff: Care givers with high school degree as well as certificate in Child Development and Education/Child Care	Support Staff: In pre-schools: teachers, doctor, psychologist with university degree and support staff, cook, furnace man, driver, technician

	<p><i>Health staff not specified</i></p> <p>staff for cooking, cleaning, administrative and other services with primary school degree OR literacy certificate</p>	<p>and security staff with high school degree (vi)</p> <p>In nursery classes under primary schools: teachers and administrative staff with university degree (vi)</p> <p>In applied pre-schools: teachers and administrative staff with university degree and cook with high school degree (vi)</p> <p>For the child clubs after school: teachers with four-years university degree in Pre-School Education or Child Development plus a permanent or temporary contract or be a paid/retired teacher (v)</p>
2.2. TYPE OF CONTRACT	<i>Not specified</i>	<p>2 types for teachers: with permanent contract with full employee rights and min. 18 and max. 42 working hours weekly (extra payment after each hour after completing 18 hours), temporary contact with no employee rights limited with 40 working hours weekly and payment per hour (i)</p> <p>For other staff, temporary contract only.</p>
2.3. WORKING HOURS	Not specified for the staff; operating hours is limited to working days and hours; upon written request, it can be extended to the evenings, weekends and official holidays	<p>Full day: max. 9 hours daily and 42 hours weekly for pre-school teachers (vi)</p> <p>Half-day: 6 hours daily and 30 hours weekly for pre-school teachers (vi)</p>
2.4. IN-SERVICE TRAINING	once in the first 3 months of employment and later annually once minimum (each 15 hours)	Based on request by employer and employee
Total number of requirements on HR	6	9
	MoFSP	MoNe
3. LEARNING MATERIALS AND TEACHING CURRICULUM		
	MoNE's teaching curriculum and learning materials are used both for 0-36 and 36-66 months old children.	1) There are specific learning materials and teaching curriculum used in all public/private institutions for 0-36 months and 36-66 months old children (this is not a part of standards). For children with disabilities and autism individualized educational programs are applied by special education teachers.
Total number of requirements	1	1

TECHNICAL NOTE 8 COSTING ANALYSIS

For the analysis, the averages of each of the items has been taken first. Since the investment costs are about the period the school was set up, it was necessary to come up with a costing representation which represents today. In order to achieve this total hypothetical investment costs are used. Hypothetical investment cost is the cost the service provider would incur if they were to set up the school from scratch today¹⁰⁶. The average hypothetical investment cost then divided into corresponding cost items (such as renovation costs) by using the averages of the real investment cost items. These averages are first summed up (except "other costs") and then their share in the total is calculated. Following this calculation, the average hypothetical setup cost is multiplied by these shares to come up with today's averages for each cost item.

Since operational costs are already for today, this kind of exercise was not necessary for them and the averages are reported as they are in the dataset. Only for rent, apart from the rent that is actually paid every month by the care providers, for the service providers that own the buildings they reside in the rent that would have been paid if the building was rented out is also included. Owners of the building incur an opportunity cost by not renting out the building and instead using it, hence including this cost as rent is a more accurate way to represent rents.

In the table below, sample size for each costing item can be seen. Unfortunately not all the providers have responded to all of them.

Table 1: Sample size for each cost item

	Private Schools			Public Schools		
	Istanbul	Non-Istanbul	OVERALL	Istanbul	Non-Istanbul	OVERALL
Investment costs						
Total investment cost (hypothetical)	102	52	154	3	1	4
Renovation costs	57	31	88	0	0	0
Furniture costs	56	33	89	0	0	0
Teaching material costs	56	35	91	0	0	0
Licensing costs	36	20	56	0	0	0
Other costs	17	14	31	0	0	0
Operational costs per monthly						
Rent	82	29	111	1	0	1
Monthly salary of the director	44	18	62	9	23	32
Monthly salary of the caregivers	51	24	75	59	21	80
Monthly salary of the janitorial staff	47	21	68	53	24	77
Stationery & cleaning materials	31	16	47	7	15	22
Repair costs	32	16	48	8	20	28
Utilities	36	25	61	4	22	26
Travel	5	10	15	1	3	4
TOTAL	141	85	226	136	241	377

¹⁰⁶ The question that was asked in the Supply Side Survey was how much would they need to pay to set up a school like this today.

TECHNICAL NOTE 9 PRICES ARE CORRELATED WITH INFRASTRUCTURE AND HR QUALITY AT PRIVATE CENTERS, THOUGH NOT WITH CURRICULUM AND MATERIALS QUALITY.
(SIMPLE REGRESSION RESULTS FOR PRICE VS. QUALITY INDICES FOR PUBLIC AND PRIVATE SERVICE PROVIDERS)

The table below shows the simple regression results when monthly price of the schools is the dependent variable and each of the quality sub-indices and overall quality index are the independent variables in each regression. In Panel A the sample consists of private schools only and in Panel B only public schools are included in the sample. From regression to regression the sample sizes vary because of the fact that not all schools report all the information that goes in the analysis.

The results show that both for private and public child care service providers the prices are more likely to be higher when HR quality index is higher (See column 2 of Panel A and B). This kind of relationship does not hold for public schools when it comes to the infrastructure quality index. Private schools with higher infrastructure quality are more likely to have higher prices whereas this correlation is not significant for public schools (See column 1 in Panel A and B). Public schools with higher curriculum and materials quality are more likely to have higher prices while for private schools the association is not statistically significant. Lastly, a higher level of overall quality is associated with higher prices for public schools while this relationship is not significant for private schools (See column 4 in Panel A and B).

Dependent variable: Monthly price of service providers

VARIABLES	Panel A: Sample: Private schools				Panel B: Sample: Public schools			
	1	2	3	4	1	2	3	4
Infrastructure Quality Index	3.366*** (1.280)				0.772 (1.195)			
HR Quality Index		4.015*** (0.927)				4.710*** (1.045)		
Curriculum and Materials Quality Index			-1.302 (1.153)				3.633*** (1.215)	
Overall Quality Index				2.147 (1.556)				2.650* (1.431)
Constant	553.7*** (93.43)	598.6*** (52.38)	875.5*** (78.91)	618.3*** (122.8)	475.3*** (53.80)	269.4*** (61.85)	380.9*** (59.14)	427.8*** (61.62)
Observations	202	160	170	139	252	233	224	215
R-squared	0.033	0.106	0.008	0.014	0.002	0.081	0.039	0.016

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source data: Turkey Child care Assessment Supply Side Dataset

TECHNICAL NOTE 10 MULTIPLE REGRESSION SHOWING PASS-THROUGH FROM RENT AND REAL ESTATE PRICES IS HIGH FOR PRIVATE PROVIDERS

The table below shows the regression results for determinants of monthly prices of private child care service providers. Each column includes a number of the independent variables in order to understand the different dynamics existing in determining prices.

Rent variable includes the real rent that is paid by schools each month as well as the amount of rent that would be received if the school was rented out for the care providers who are owners of the buildings. Monthly salary of the caregivers is as it was answered in the questionnaire by the respondents. The quality indices values range between 1-100 (See Technical Note 6 for the details of the construction of these indices). Total enrolment in a school is the total number of children aged 0-6 and currently enrolled in the school. Number of teachers with university degree in the school is the total number of main and assistant caregivers with 2 or 4 years university degree or higher. Neighborhood welfare is a subjective measure and depends on how the respondent thinks about the neighborhood; the category of neighborhood welfare that was excluded in the regression is high neighborhood welfare. Neighborhood welfare variables are binary variables, hence taking values 0 or 1.

It must be noted that the sample size varies from regression to regression. This is due to the fact that not all the respondents have answered all of the questions in the survey. Hence when interpreting the results it is better to be cautious.

Results show that it is significantly more likely for private schools to have higher prices with higher amounts of rent even controlling for quality sub-indices (See column 6). However this positive association disappears when neighborhood welfare is controlled for (See column 7). Hence we can say that the positive effect of rent is possibly due to the neighborhood effect.

Dependent variable: Monthly price of service providers

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rent (with tax)	0.0242*** (0.00621)			0.0125 (0.00764)	0.0210*** (0.00692)	0.0199*** (0.00728)	-0.00662 (0.00626)
Monthly salary of the caregivers		-0.000753 (0.0120)		0.00548 (0.0145)			
Infrastructure Quality Index			3.035** (1.482)			1.730 (2.099)	3.472** (1.547)
HR Quality Index			4.298*** (1.036)			2.184* (1.193)	0.987 (0.883)
Curriculum and Materials Quality Index			-0.186 (1.232)			-0.193 (1.518)	-2.217* (1.132)
Number of teachers with university degree in the school					50.99* (29.57)		
Total enrolment in the school			-1.240* (0.700)		1.120 (1.684)	0.974 (1.685)	1.692 (1.226)
Neighborhood welfare: Medium							-495.1*** (61.88)
Neighborhood welfare: Low							-459.1** (215.7)
Constant	608.8*** (52.74)	645.1*** (39.59)	448.5*** (136.5)	568.1*** (69.53)	491.2*** (101.3)	367.2* (185.7)	895.4*** (150.1)
Observations	105	73	139	52	86	75	75
R-squared	0.129	0.000	0.155	0.055	0.147	0.214	0.598

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source data: Turkey Child care Assessment Supply Side Dataset

TECHNICAL NOTE 11 METHODOLOGY FOR BREAKEVEN ANALYSIS

Break-even point is when the total costs of a firm is equal to total revenues that has been collected so far. Break-even point can only be reached if prices of a firm is higher than the unit variable cost. When it is reached it means that all costs are paid and from this point on the firm will start making profit.

The formula we have used to calculate break-even point of child care service providers is:

$$n = \text{Total fixed costs} / (\text{Monthly price} * 10 - (\text{Monthly variable cost} * 10/n))$$

where n is the number of children.

In the formula prices and variable costs are multiplied with 10 (months), to come up with a yearly value out of monthly values. And variable costs are further divided by the number of children in order to find the variable cost associated with one child.

For the analysis we have used the average of the hypothetical investment costs of the private care service providers as the total fixed cost and monthly variable cost is the sum of the averages of each variable cost item (rent, monthly salaries of the director, caregivers and janitorial staff, stationery and cleaning costs, repair costs and cost of utilities) again of the private providers. For monthly price we have used average monthly price of the private care providers and in the second calculation we have used average willingness to pay of the mothers for care centers, which was obtained from demand side survey.

When the numbers are plugged in, the equation becomes:

$$n = 278,839 / (790 * 10 - (20,882 * 10/n))$$

and n=62 children with monthly prices as average prices and n=188 children with average willingness to pay (259 TL) of the mothers. Hence now, it can be calculated for an average service provider how many years it needs to reach the breakeven point by dividing the number of children by its yearly capacity e.g. for a care center with a capacity of 20 children, the break-even point will be reached in 3 years given the average costs and average price.

Break-even analysis is a simple tool to understand in minimum how much time it is needed to recover the costs and start making profit for a company. However it must be noted that it is a limited analysis. It assumes monthly variable cost is fixed and also does not take into account interest rates or inflation.

TECHNICAL NOTE 12 CALCULATION OF DEMAND AND WILLINGNESS TO USE CENTER BASED SERVICES

The first column in the table (a) comes from data in Turkey Child Care Assessment Demand Side Household Data Set, Roster for Child care Division of Tasks Question 2.

The second column in the table (b) was generated by coding FGD transcripts via N-Vivo 10 software, in order to identify the density of those mothers who were willing to use child care services. Accordingly the following was coded under the node "Willingness to use - past or present" (Statistic code):

- Mothers' mentions emphasizing that they are willing to send their young children to kindergartens,
- Mothers' mentions emphasizing that or that they wish they could have sent their children to kindergartens but could not due to their current circumstances.

The particular node were then quantified using matrix-coding query to show those participants who had made any mentions, and was transported to excel. In order to assess for unfulfilled potential for child care demand, the number of participants who are already using care centers were screened out. Therefore the data in display here represents those participants who are not currently using, but are willing to use care centers. In other words, the b column represents those mothers who would have used child care centers had circumstances been right.

TECHNICAL NOTE 13 ATTITUDES TOWARDS KINDERGARTEN (CENTER-BASED CARE):

The table (Figure 17) was generated via coding of focus group participants' positive and negative attitudes towards kindergartens (center-based care) under the node "attitudes towards kindergarten." The node was created so as to capture the general worldviews, impressions and values of the participants about kindergartens in relation to their experiences and observations holistically.

The main guiding/defining questions for the node, therefore, have been as follows:

- What do participants **think** about care by child care centers, kindergartens?
- How did/do they **experience** it? What do they **feel** about it?
- What are their **observations** and **hunches** regarding use of care centers? (Do not code if the mention is a neutral, definitional one. Only include if it shows a positive or negative attitude)

Definitions of the sub-nodes "positive" and "negative" have been as follows:

- **Positive:** All positive and pro- remarks about kindergartens (i.e. positive thoughts, feelings, experiences, observations). For example, why would/should children attend kindergartens, or what are their advantages? How were these advantages experienced? Etc.
- **Negative:** All negative and con- remarks about care by kindergartens kindergartens (i.e. negative thoughts, feelings, experiences, observations). For example, why would parents chose not to use kindergartens, what are the negative consequences of sending children to kindergartens? Etc. (The node also includes more neutral comments such as "I could give my child the same education" since what is implied here is that the kindergartens provide no added value/benefits for the child or the parent.)

TECHNICAL NOTE 14 METHODOLOGY FOR ESTIMATING POSITIVE AND NEGATIVE ATTITUDES TO CENTER BASED CHILD CARE BY AGE LEVEL OF CHILDREN

Coding methodology:

Node name: Ages of children and decisions

Node definition: Comments on child's age and its impact on use of child care center

- Positive on Age 0-3 or Care intensive: Includes comments from those who say a child can enroll kindergarten somewhere between his/her age 0 to 3.
- Negative on Age 0-3 or Care intensive: Includes comments from those who are against sending children to kindergarten at their age of 0-3.
- Positive on Age 3-5 or ECD intensive: Includes comments from those who finds ages 3-5 appropriate to send a child to kindergarten.
- Negative on Age 3-5 or ECD intensive: Includes comments from those who are against sending children to kindergarten at their age of 3-5.
- Positive on Minimum age 5: Comment from those who believe that a child should start kindergarten minimum at age 5.

Summary of Nodes:

- Positive 0-3: If the mother has to work (financial needs in the family), if the child has special needs (like being hyperactive), if the child has toilet training, also good for the child to learn self-sufficiency skills; better than leaving the child with a baby-sitter. The age mentioned in these positive remarks differs between 1,5 and 2,5 but the majority is over 2. It consists mainly of the discussions about the context where the mother is working and on the assumption that affordable and good quality child care is available.
- Negative 0-3: Includes rumors/observations about present child care centers (children are drugged so that they sleep; or are crying and no one cares for them), also quality concerns about the inexperience of the staff as well as low staff: child ratio; child is very young and has emotional care needs, so would be better to be with a grandmother rather than at a child care center at these ages; also the mother cannot feel comfortable and be at peace; here many also say (especially not employed high school educated women in the groups) that even 3 is too young – they prefer 4. One of the most common reasons: at this age the child does not have the self-expression and self-sufficiency skills. Need to start talking and also get toilet education.
- Positive 3-5: socialization, physical activity, discipline, behavioral and cognitive development, prep for school... etc (please see positive attitudes to kindergarten). Here some state 3 and some as 4 as the earliest age. (see above for negative reasons for 3).
- Negative 3-5: Self-expression and self-sufficiency is among the most voiced. Also physical security: there was no center close by and some mothers and/or fathers did not want the children to take the service buses due to security concerns (it was stated there was no personnel at these service buses). Among some of the women the emotional care needs are extended to age 4 and it is said the child should stay with the mother until 4.

TECHNICAL NOTE 15 CALCULATION OF POTENTIAL EARNINGS IN THE LABOR MARKET AND THE EARNINGS DIFFERENCE

The graph showing the difference between women's earnings (actual for working women and potential for non-working women) and child-care service costs was constructed by using average earnings of working women, average potential earnings of non-working women, and average willingness to pay for a safe, secure, and good quality child care center in their neighborhood by education level of women.

The numbers of these variables are coming from the 1st section of the Demand Side Household Survey Question 11, 21, and 29, respectively. In the first question it was asked "What is the monthly salary provided by this job?" In the second question it was asked "If you were working for pay, what would your salary be? (How much your estimated monthly net salary would be?". In the last question it was asked "Assume there is a credible childcare center in your neighborhood, on monthly basis how much money you would pay per children?". The lines above bars are representing median prices of private and public child care centers coming from the Supply Side Service Provider Survey.

TECHNICAL NOTE 16 REGRESSION ANALYSIS LOOKING AT FEMALE EMPLOYMENT AND USE OF CHILD CARE

The table below shows the regression results for determinants of employment of mothers. First column includes a number of the independent variables which are education of the mother, education of her husband, number of children she has living together with her, household income per capita, average support she gets in the household related to child care tasks and two province level variables which are average monthly price of private schools in each province and number of preschool children per school in each province.

In the second column in addition to these variables using center based care is also added as a possible determinant and in the last column using public and private center based care are added separately into the regression.

In the household survey collected, women were asked who is mainly responsible in their household for a number of tasks related to child care. These tasks are dressing the children, putting the children to bed, staying at home and taking care of the children when they are ill, playing with the children, helping children with their homework and taking children from school or from leisure activities. Women gave an answer ranging from Always me:1 to Always someone else:5. We took a basic average of these answers to get the support index. Hence the higher the index, the less a woman answers "Always me" on average.

Province level prices are taken from the supply side survey. Number of children per school in each province is calculated by using the same sources that was used in the mapping analysis (See Technical Note 3).

Results indicate that if a woman has a university degree it is more likely for her to be working (As opposed to having a degree lower than high school). Moreover average support she gets in the household also increases the likelihood of her to be employed. Husband's university education on the other hand decreases the likelihood of woman to be employed. And a higher household per capita income on the other hand increases the likelihood of being employed.

Using center based care does not have a significant effect on the likelihood of women's employment; however using private center based care has a statistically significant effect on increasing the likelihood of being employed for mothers. On the other hand using public center based care does not have a similar statistically significant effect.

Lastly, average monthly price of private schools is also negatively associated with women's employment.

Empirical Specification for Probit model:

$$Prob(Work)_i = \beta_0 + \beta_1(Availability)_p + \beta_2(educ)_i + \beta_3(educ_husband)_i + \beta_4(num_children)_i + \beta_5(support)_i + \beta_5(HHincome)_i + \beta_6(childcare\ public)_i + \beta_7(childcare\ private)_i u_i$$

Where $(Work)_i$ is a dummy variable for being employed.

Dependent variable: Being full-time or part-time employed

VARIABLES	(1)	(2)	(3)
High school	0.0465 (0.0837)	0.0459 (0.0837)	0.0335 (0.0845)
University or more	0.370*** (0.117)	0.369*** (0.118)	0.359*** (0.120)
Husband - High school	-0.0881 (0.0802)	-0.0943 (0.0804)	-0.0855 (0.0810)
Husband - University or more	-0.251** (0.0994)	-0.264*** (0.0989)	-0.267*** (0.0990)
Number of children	-0.0144 (0.0319)	-0.0193 (0.0322)	-0.0181 (0.0323)
Household per capita income	0.000261*** (9.25e-05)	0.000257*** (9.33e-05)	0.000242** (9.46e-05)
Average support woman gets for child care activities at home (1-5)	0.450*** (0.0580)	0.453*** (0.0581)	0.455*** (0.0582)
Using center-based care services		0.0772 (0.0780)	
Using public center-based care services			0.0373 (0.0841)
Using private center-based care services			0.267* (0.151)
Number of children per school in province	0.00115*** (0.000223)	0.00120*** (0.000231)	0.00118*** (0.000231)
Average monthly price of private schools in each province	-0.000776*** (0.000264)	-0.000797*** (0.000265)	-0.000792*** (0.000265)
Observations	361	361	361

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

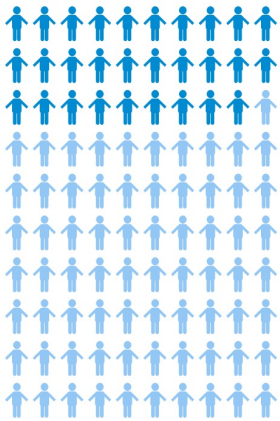
Source data: Turkey Child care Assessment Demand Side Household Dataset

The Supply & Demand of Child Care Services in Turkey

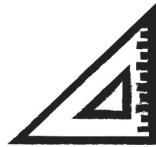
While progress has been made in recent years to expand the availability of center based child care and preschool services in Turkey, utilization remains low and majority of families do not have access. If key constraints are addressed, there are opportunities for Turkey to expand quality, affordable and accessible center based child care.

Supply Characteristics

The current supply of services are primarily publicly provided, half-day services that target 5+ year old children (i)

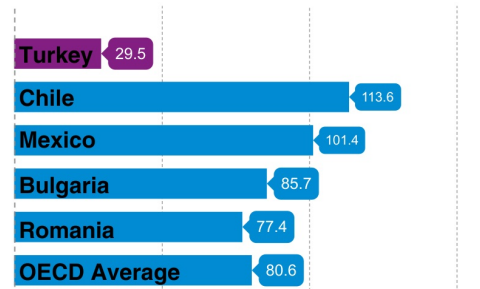


2.7 million children age 3-5 years are **unserved** by preschool or child care providers



42,388 new providers are needed to reach the OECD average pre-primary enrollment rate (iii)

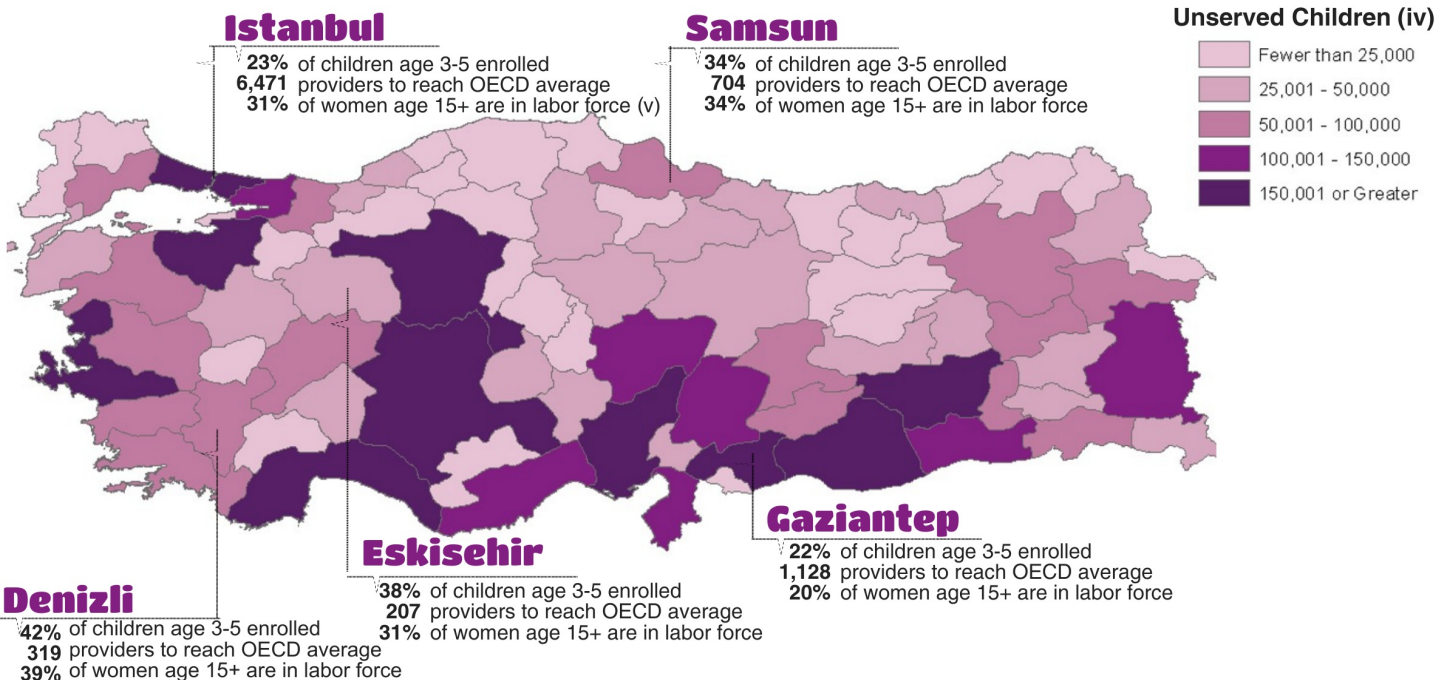
Turkey's pre-primary school gross enrollment ratio is less than the OECD average and countries with similar GDPs (ii)



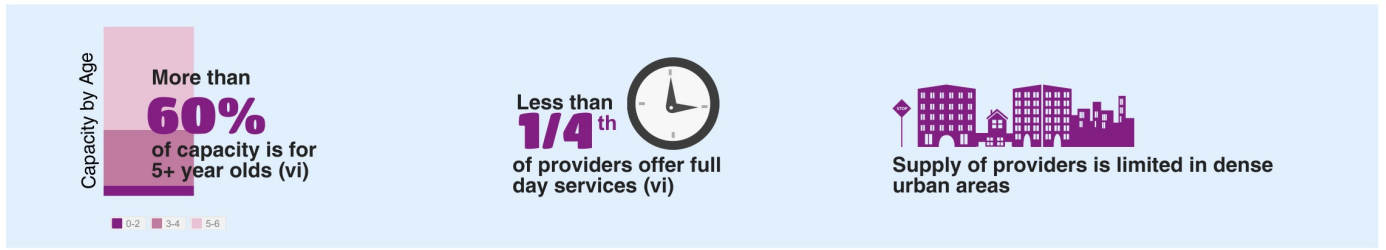
Enrolled Not Enrolled

Pre-primary School Gross Enrollment Rates

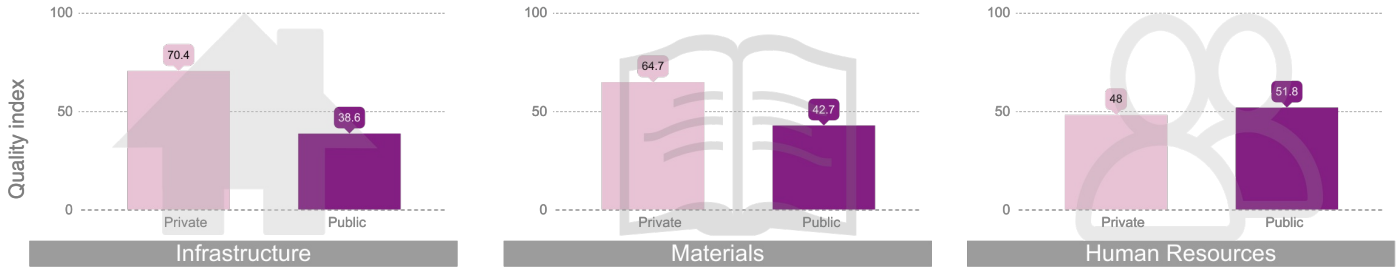
The population of children far exceeds the existing supply of child care centers in most provinces



Services for younger age groups, full day service hours, and the location of the facilities are limited



The differences in quality across providers is mainly due to infrastructure and materials but not human resources (vii)



Demand Characteristics

Although utilization is low, there is high unfulfilled demand for center-based care services

Families feel center based care will benefit children

- Builds self-confidence
- Enables mom to work
- Pre-numeric skills
- Learning to share
- Fine motor skills
- Discipline
- Pre-literacy skills
- Equality of opportunity
- music & artistic skills
- Acclimate to classroom
- Socializing with peers
- Language development
- Self-sufficiency skills
- Improve cognitive skills
- Communication
- Ease mom's burden of housework

Families desire child care providers to meet certain quality standards, sometimes different from current regulations

- Safe and secure environment
- Clean and hygienic facility
- Extra-curricular activities
- University graduate teachers
- Child psychologist
- Lower child-to-staff ratio



Less than a quarter of employed mothers use center based care or preschool services, though an additional 50% expressed they would like to use them

Why do they not use services now?



lack of child care centers near home or workplace



service hours & days not aligned with the needs of working mothers



cost of private child care centers too high



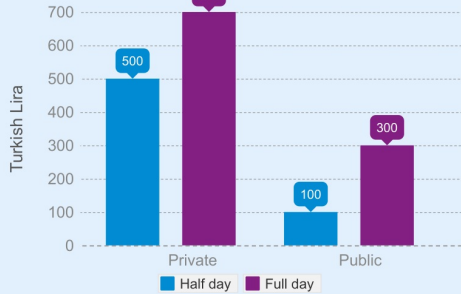
affordable public centers that serve children under age 5 too few

The Cost of Care

The difference is large between a family's willingness to pay and the cost of private child care services

Children from economically disadvantaged backgrounds are unlikely to have access to private providers at current costs

Median monthly price of private providers is more than double that of public providers(viii)



60% of children in the top income decile attend preschool or center-based child care (ix)

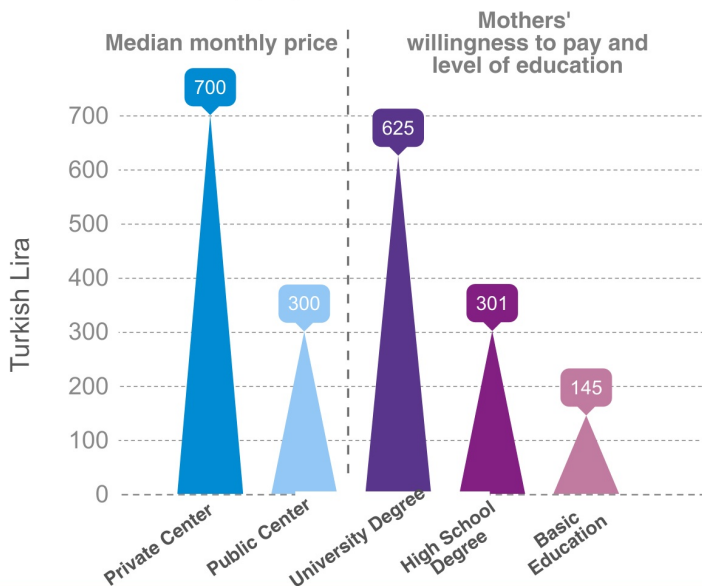
17% of children in the bottom income decile attend preschool or center-based child care (ix)

Less than **2%** of providers surveyed prioritize lower income students in the admissions process(x)

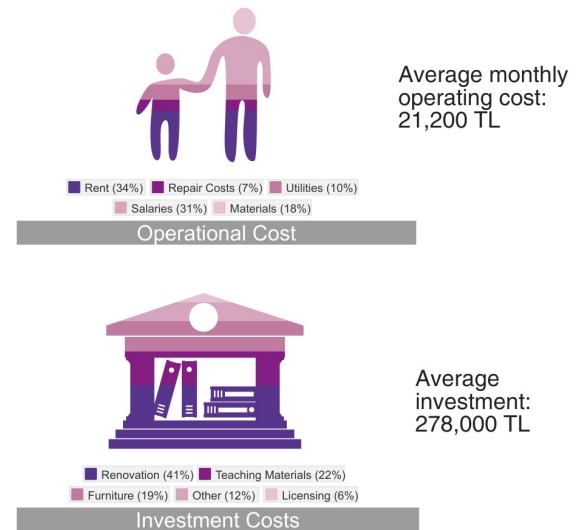
4% of students attended facilities free of charge (x)

92% of providers said they would need a government subsidy to admit more children based on need (x)

Mismatch exists between willingness to pay & the actual price of child care services (xi, xii)

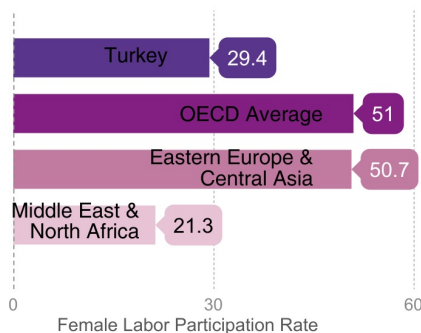


Location & building quality drive cost of child care, not quality of education or care (xi)

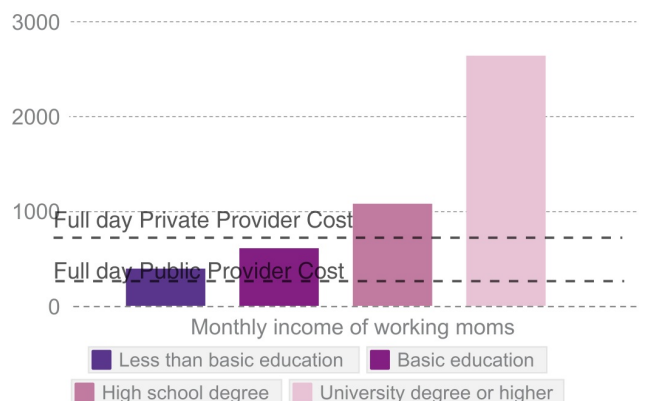


Increasing access to affordable center based child care services is likely to increase female labor participation

Less than one third of working-age women are active in the labor market in Turkey (xiii)



The difference between earnings and the cost of care is too low for many to justify joining the labor force (xiv)



45% of women surveyed worked prior to having children, but are no longer working now (xiv)

Recommendations

In the current regulatory environment, it is difficult for small-scale providers to enter the market and to break even (xvi)

Barriers to entry

Schools reported difficulty complying with the following regulations:

- 1 being located in a building with a garden
- 2 providing at least 1.5 m² garden space per child
- 3 having a teacher with a 4 year university degree

Using current average child care prices, it would take **3.1** years (with twenty enrolled children) to recover investment. Using the average household willingness to pay, it would take **9.4** years.

Turkey needs a new and more flexible model of child care that aligns with child well-being and household expectations with a focus on affordability and quality of care

Reducing the cost of child care will allow more women to participate in the labor market and will improve equality of opportunity for children in need

Increase public provision and financing of child care services

Create more flexible regulations to enable more affordable privately provided services

Target subsidies to households in need to improve equality of opportunities

About this Summary

The information in this document is a summary of the "Supply and Demand for Child Care Services in Turkey: A Mixed Methods Study" (2015).

The study has collected and assessed information on the supply and demand for child care services in Turkey. Fieldwork for the study has been completed during May-June 2014. On the supply side, data was collected using Turkey Child Care Assessment Supply Side Service Provider Survey, from a total of 603 service providers in 5 provinces of Turkey (Istanbul, Denizli, Eskisehir, Samsun and Gaziantep). 377 public and 163 private schools under Ministry of National Education (MoNE) and 63 private service providers under Ministry of Family and Social Policies (MoFSP) were surveyed. In the analysis the current availability of the services (hours of provision, location, services to age groups), quality (in terms of building infrastructure, materials and curriculum and human resources) and prices for services delivery were assessed. On the demand side, data was collected using Turkey Child Care Assessment Demand Side Household Survey, from 371 mothers of children (in age group 0-6) in the same provinces of the supply side assessment. Data has been collected from both users and non-users of child care services. Following the quantitative data collection, 25 focus group discussions with families were conducted to assess the demand side qualitatively. The demand side analysis' aim was to understand the views and perceptions of families about the use of childcare services, and their expectations in terms of availability, quality and prices of child care services.

Notes

- The number of preschools and child care providers, teachers, enrolled children, and the public/private split come from Turkey National Education Statistics for Formal Education 2013/14, published by the Ministry of National Education.
- Turkey's pre-primary school gross enrollment ratio is calculated using administrative data obtained from the Turkey Ministry of Family and Social Policy and the Turkey Ministry of National Education (2013/2014) for number of children enrolled and using data about child population from the Turkish Statistical Institute, 2013 address-based estimates. The OECD average and enrollment ratios for Chile, Mexico, Bulgaria, and Romania are from the World Bank World Development Indicators, 2012.
- This calculation for unserved children assumes an average of 40 children per child care center, which is the average for Turkey. The number of unserved children is estimated using administrative data obtained from the Turkey Ministry of Family and Social Policy and the Turkey Ministry of National Education (2013/2014) and data on child population from the Turkish Statistical Institute, 2013 address-based estimates.
- The number of unserved children is estimated using administrative data obtained from the Turkey Ministry of Family and Social Policy and the Turkey Ministry of National Education (2013/2014) and data on child population from the Turkish Statistical Institute, 2013 address-based estimates.
- Female labor force participation rates at the NUTS-2 level are from the Labor Force Survey collected by the Turkish Statistical Institute, 2013
- Information comes from Turkey Child Care Assessment Supply Side Service Provider Survey, 2014.
- Information comes from Turkey Child Care Assessment Supply Side Service Provider Survey, 2014. The quality indices are constructed using 38 variables including various characteristics of child care service providers and observations by the survey enumerator. The methodology is provided in the full report.
- Information comes from Turkey Child Care Assessment Supply Side Service Provider Survey, 2014
- The percentage of children in the top and bottom deciles attending preschool or center-based care is from the EU Survey of Income and Living Conditions, 2012.
- Information comes from Turkey Child Care Assessment Supply Side Service Provider Survey, 2014
- Data on the prices and costs of service providers comes from the Turkey Child Care Assessment Supply Side Service Provider Survey, 2014.
- Data on average willingness to pay comes from the Turkey Child Care Assessment Demand Side Household Survey, 2014.
- Female labor participation rates are from the World Bank World Development Indicators, 2012.
- Information comes from Turkey Child Care Assessment Demand Side Household Survey, 2014.
- Data on average earnings comes from Turkey Child Care Assessment Demand Side Household Survey data, 2014.
- Information comes from Turkey Child Care Assessment Supply Side Service Provider Survey, 2014

This study has been technically and financially supported by the World Bank and the Swedish International Development Cooperation Agency (SIDA) and has been prepared for the Turkey Ministry of Family and Social Policies by Development Analytics.