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KDI FOCUS | Analysis on critical pending issues of the Korean economy to enhance public understanding of the economy and provide useful policy alternatives.

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Improving Elementary Childcare System in Women's Growing Economic Participation

Sungmin Han, Fellow at KDI

"Despite women's growing economic participation, female employment rates vary considerably across age groups. Women in their 30~40s exhibit the lowest rates, mainly due to the lack of policy support targeting women with dependent children in elementary school. The Korean government has sought to address this by expanding public childcare, but problems like childcare void and high dependence on private education persist. Amid rising social demands for childcare services, taking policy actions to enhance the quality and quantity of public childcare and overhaul its legal framework is of vital importance and requires immediate attention."

I. Issues

More and more women are entering the workforce in Korea, but their employment rate varies by age group. It exhibits an M-shaped pattern that peaks at ages below 30, dips at 30s~40s, and rises again at the 40s and older.[1] This pattern shows a close link with the female life cycle from marriage to childbirth and looking after children entering elementary school.[2] On the other hand, in major countries such as Germany, Sweden, and Finland, the pattern is inverted U-shaped with no decline in women's economic activity during pregnancy and parenting.

* Based on Han, Sungmin, *A Study on the Effectiveness of Care Services in Elementary Schools and Efficient Policy Measures: Focusing on the Seoul Case*, Policy Study 2019-04, Korea Development Institute, 2019 (in Korean).

1) In 2019, the employment rate of women by age group was 71% for those aged 25-29, 65% for 30-34, 60% for 35-39, 63% for 40-44, and 67% for 45-49.

2) According to Statistics Korea (2020), as of 2019, the average age of first marriage for women is 30.6 and childbirth is 33.0. Of 1,699,000 women experiencing career disruptions in 2019, 634,000 are in their 40s, and 37.5% of them cited childcare as the reason for interruption.

This study looks into the reason for Korea's iconic employment curve of women's labor participation in a definite shape of M. The suspects are differences in social perception of women's economic participation and policies in employment and childcare. By design, Korean childcare policy mainly targets infants and young children that fewer care policies cover elementary school children. Public childcare support for younger children, such as childcare allowance and subsidy and the *Nuri* curriculum, has been constantly strengthened. On the other hand, there is only a handful of government programs for elementary school students: elementary childcare classes[3] and after-school programs[4] in operation within school settings and village care outside school. Relevant data show this imbalance: 68.3% (2,150,000) out of 3,150,000 younger children are using public childcare, whereas only 12.5% (330,000) of 2,670,000 elementary school children are taking advantage of the support (Ministry of Education, Apr. 2018).

By design, Korean childcare support policy mainly targets younger children, and the relative shortage of elementary childcare services is a hurdle to economic activity for women with dependent children in elementary school.

Despite the Korean government's continued effort to expand elementary childcare services, problems including women's withdrawal from the labor market and reliance on private education persist. Difficulties facing women to strike a balance between work and family are well-represented by newly coined phrases like "childcare cliff," "after-school program lottery," and "hop-on, hop-off private education tour (*bbaeng-bbaeng-i* in Korean)." In particular, working women with young children or dual-income families appear to be more affected by the predicament of caring than other household types. They cannot find an adequate place to entrust their children with the current school dismissal time, usually around 1-2 p.m. (Lee *et al.,* 2017).

Policy efforts for better elementary childcare services are vital to properly respond to women's growing economic participation.

In recognition of the childcare issue, this study intends to address the problems with the elementary childcare system and discuss the way forward given the growing female economic participation.

II. Status and Problem of Elementary Childcare Services

1. Function and Role of Elementary Childcare Classes and After-school Programs

Elementary childcare services are composed of elementary childcare classes and after-school programs. The former focuses on ensuring all children receive quality care services, and the latter aims at reducing the education gap and costs of private education. Accordingly, service management and activities offered in elementary childcare classes center on caring and after-school programs on learning.[5] Such differences mean that children will be reaping different educational benefits depending on which type of care they choose. As long as students are free to select between the two, the dichotomy is not a problem. However, the care classes are only for children from low-income, single-parent, or dual-income households that family background determines which service is available.

As elementary childcare classes focus on caring and after-school programs on learning, educational benefits among students differ.

3) Elementary care classes provide childcare services for children in need from low-income, single-parent, or dual-income families until 5 p.m. or 10 p.m. at childcare classes within after-school programs. This study focuses on afternoon childcare from 1 p.m. to 5 p.m.

4) After-school programs are extracurricular learning arrangements of schools, comprised of educational activities and care services after regular hours. In principle, the programs operate based on the voluntary participation of students (application) and at the beneficiary's expense (or financial support), and they operate for a fixed period of time depending on the school's schedule.

5) Individual activities in the childcare classes include doing homework, diary-keeping, reading, drawing, writing, watching EBS, etc. Group activities consist of music, skipping rope, book art, traditional games, physical education, creative robots, musical instruments, cooking, etc. On the other hand, after-school classes cover curriculum subjects like Korean, math, and science, and special aptitude programs like music, art, and physical education.

The point to be noted here is that parents and children need both caring and learning. Take, for example, a two-income family applying for an after-school program for a child. Not all applicants get selected since the program runs on a quota (about 15 students per class). Even after enrollment, as the program operates for limited hours after school curriculum, concerns over the void in childcare remain. In contrast, suppose elementary childcare classes fill the gap in care. Now, parents and children worry about reduced learning opportunities compared to not using them. Put differently, the dichotomy in operating the childcare services risks unintendedly dividing children into those getting childcare and others receiving education.[6)]

So far, Korea has no clear policy direction for childcare and a fragile legal foundation for elementary childcare services.

Essentially, the lack of policy direction in education and childcare lies at the cause of this troublesome situation. It is not unrelated to the absence of a legal basis for pubic childcare in elementary schools. To date, as part of the after-school program policy, elementary childcare classes are in operation in line with the notices issued by the Ministry of Education. Providing childcare support outside the purview of laws and regulations is an obstacle to setting a clear direction for public childcare. Recently, the Ministry of Education put forth a bill to allow schools to operate after-school programs and elementary childcare classes but dropped it due to opposition from teachers' organizations. In the bigger picture, childcare does not neatly fall into the realm of education because the two fall under the jurisdiction of different bodies—childcare under the Ministry of Health and Welfare and local governments and education under the Ministry of Education.

2. Actual Hourly Usage of Elementary Childcare Services

Usually, elementary school children in first to third grades are dismissed from school between 1 p.m. and 2 p.m. After regular school hours, these children attend childcare classes or after-school programs at school or go to community care centers or private academies instead of going home. According to Han (2019), 56.8% and 65.5% of first and second graders, respectively, receive childcare services (elementary childcare classes or after-school programs) right after school.[7)] The rate of service use, however, decreases as each hour passes—18.3% right after the regular hours and 8.8% at 4 p.m. for elementary childcare classes and from 38.5% to 6.2% for after-school programs. As for second graders, the rate falls from 17.8% to 8.7% and from 47.7% to 7.3%, respectively.

Meanwhile, the declining rate of public childcare use leads to the increased attendance rate of private academies. For first and second graders, the rate of private education is 8.5% and 12% each soon after being dismissed from compulsory education, and at 4 p.m., the rate shoots up to 43.8% and 55.0%, respectively. It can be inferred that they are getting care services at school for about one to two hours after curriculum hours and then head to private institutions afterward.

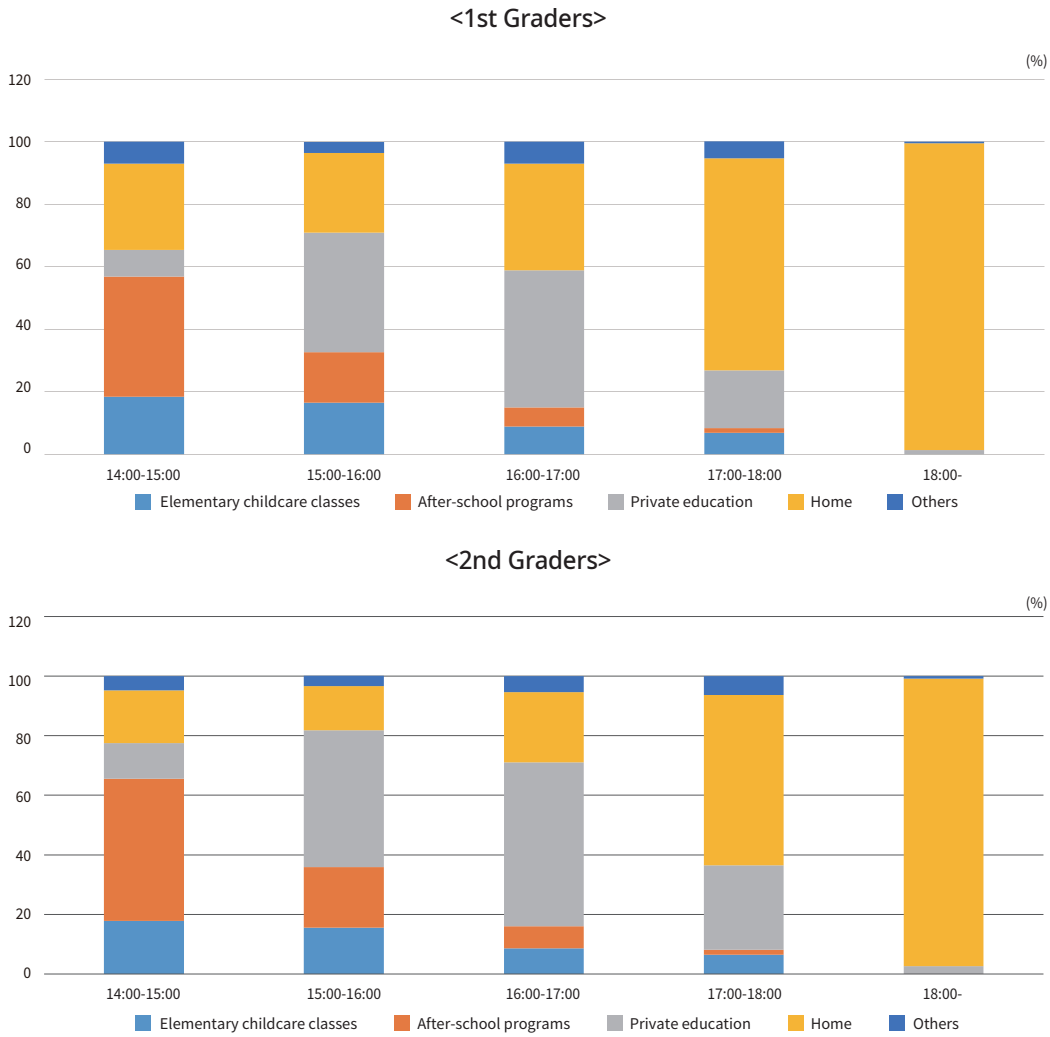
6) The childcare classes linked to after-school programs are for students in need of after-school care—children of dual-income, low-income, or single-parent families—who do not use afternoon elementary childcare classes while attending after-school programs. Participants are mainly third to sixth graders, and younger students are not eligible (visit After School Portal, https://www.afterschool.go.kr).

7) As this study is not based on a nationwide survey, there are limitations in generalizing the analysis results.

It is important to figure out why participation in private education rapidly rises after 3 p.m. while it is low in elementary childcare classes.

It is important to pay attention to why after 3 p.m., usage of private education surges and elementary childcare classes remains low. As shown in [Figure 1], it is highly likely that children attending private education after 3 p.m. are mostly in after-school programs as well. After-school program users are heading to private academies, although they can continue to do so into the afternoon, perhaps because the students do not find the program satisfying. In fact, the relevant data on after-school programs from 2017 to 2019 shows that academic enrichment programs on Korean, math, English, etc., exhibited a falling participation rate from 26.7% to 22.4%, while extracurricular educational programs for music, arts, and sports showed increased participation from 73.3% to 77.5%. Declining participation in after-school academic programs may be attributed to a reduction in the number of programs offered or insufficient quality of open programs. 53.5% of parents who did not enroll their children in after-school programs replied that it was because they sent their kids to private institutions instead. This analysis suggests that it is necessary to look at the supply-side and quality of after-school programs to figure out why private education consumption surges after 3 p.m.

[Figure 1] Where 1st-2nd Graders Spend Time after School



Source: KDI, "Opinion Survey on Elementary Care and After-school Classrooms," 2019 (in Korean).

The unpopularity of elementary childcare classes may be due to the supply-side factor notwithstanding the government's effort for expansion. Lee *et al.* (2017) found that 32.8% of families with a child under 12 (41.7% of working mothers, 25.3% of full-time mothers) experienced difficulties finding a place to entrust their child. National Health Insurance Corporation estimated that annually about 30,000 employed mothers with children in first to third grades experienced career disruptions (National Health Insurance Service, 2017). According to the 2019 data of childcare class operation in elementary schools, although all elementary schools ran childcare classes, only 6,230 (30.2%) of the entire 20,640 first-grade classrooms and 4,715 (23.2%) of 20,279 second-grade classrooms in total were in operation. As women's participation in the labor force is expected to increase further, setting up a childcare service plan reflecting users' needs seems essential.

3. Discussions on Longer Regular School Hours

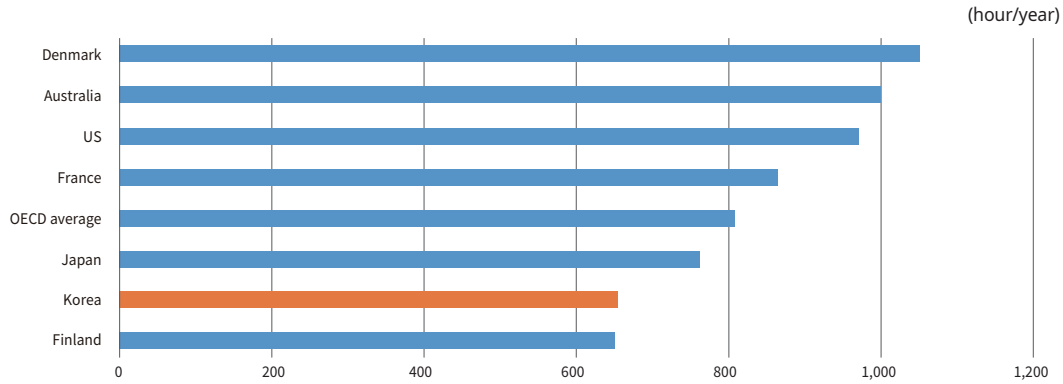
Recently, there have been demands for stronger childcare from elementary schools by extending regular school hours to close the childcare gap. Such requests are coming from the need to change the current care structure. Compared to major countries, a shorter school day of Korean elementary schools leaves parents not many options to place their children after school for proper supervision and care but to rely on private education (Kim *et al.,* 2018).

International comparisons of actual instructional hours of elementary schools in OECD members show that class hours in Korea are shorter than in most countries (Figure 2): the OECD average is 800 hours per year, but 655 hours in Korea. Against this backdrop, as longer curriculum hours strengthen school childcare services and draw more children to public childcare programs after regular school, it may resolve the lack of childcare and reduce reliance on private education with additional learning opportunities. Furthermore, parents can keep their children safe under the care of schools, reducing the level of parental stress and anxiety, especially for working mothers. Clearly, a longer regular school day by one or two hours will strengthen the child-caring function of schools as much as the time extended. Then, the next question is whether children will be using public childcare programs after school as intended instead of heading to private academies. If the dialogue for longer curriculum hours concentrates on closing the care gap, it should accompany an in-depth analysis of time usage after school.

Suppose short regular school hours are extended to equip better schools as care providers and induce students to sue public childcare after dismissal. In addition to solving the lack of childcare, it may be possible to reduce dependence on private education with additional educational opportunities.

If the discussion on increasing regular class hours is to focus on resolving the childcare gap, there should be an in-depth analysis of the use of after-school hours.

[Figure 2] Instructional Hours of Elementary School Curriculum in OECD



Source: OECD, *Education at a Glance 2018*, 2018.

III. Roles and Direction of Elementary School Care Services

This section analyzes childcare policies abroad and draws implications for the policy direction for Korea's childcare services and improving its childcare laws and regulations. It also examines the role of pubic childcare by looking at the impact on relieving childcare burden and analyzes how enhancing childcare capacity of schools affects the use of after-school hours.

1. Childcare Policy Trends in Major Countries

Childcare policies in major countries have progressed in the direction of incorporating learning from supporting child's wellbeing.

Countries have more or less different backgrounds to the adoption of childcare policies. The US and the UK implemented childcare policies (after-school programs) in order to reduce students' crime rates and also protect them against crimes on the increase. For Germany, Finland, and Japan, it was a way to respond to the rise of both women's economic participation and single-parent families and calls for a five-day workweek. In most countries, the perception that societies need to protect and take care of students started to spread and develop as childcare policies rolled out.

Afterward, care services emerged as an alternative to solve the decline in academic performance of elementary school children, and the UK and Germany used them to bolster learning assistance and narrow the educational gap for the underprivileged. Sweden set out with a viewpoint of nurturing young children and embraced an educational approach in the 1920s, incorporating elementary school childcare into the school curriculum. In other words, initially carried out as a welfare service for children, they evolved to merge with education.

The evolution of childcare services did not spark major controversy because these countries laid a legal foundation for care policies based on discussions among stakeholders such as schools, local authorities, and governments. Enacting the Children Act 2004, the UK included provisions on operating after-school programs, spelling out purpose of enactment, functions and administrative system of competent authorities, and reporting duties of the results of learning supports. Germany and Finland stipulate in their relevant laws that local governments are in charge of financial support and operation of after-school programs while taking responsibility for management—Article 24 of the Child and Youth Services Act of Germany and the Basic Education Act of Finland.[8)]

Korea's care policy needs a proper legal basis and social consensus among stakeholders.

On the contrary, Korea has no legal basis for childcare policy. Although legal backing is no magic bullet, it is an indispensable element, as seen in other countries. Establishing a legal base is crucial in clearing up controversies arising from different issues. Such issues include care policy should focus on which between nurture and education, where the latter is to follow suit of other countries in the changing educational environment and which entity should take the leading role in operation between schools and local governments. Nevertheless, as schools, local authorities, and central government have different views on childcare, the first order of business should be building consensus among these stakeholders.

8) Sweden operates its childcare-related organizations based on Chapters 2 and 3 of the Education Act. Japan amended the Social Education Act in 2017 to push for "A Comprehensive Plan for After-School Classes" that promotes collaboration between "After-school Classes for Children" and "After-school Children's Club."

2. Impacts of Elementary Childcare Services on Reducing Childcare Burden

The lack of childcare may pull women out of the labor market and increase the burden of private education. Then, the question remains whether providing adequate childcare can solve these problems. Analyzing changes in women's workforce participation and private education burden depending on the different levels of childcare service quality can shed light on the matter. However, due to difficulty judging the appropriate quality level of childcare, this study takes on an alternative approach of examining the extent of the impact of getting public childcare support unto female economic participation and the strains caused by attending private academies. To this end, the author analyzes the effect of public childcare service consumption during a pertinent school semester on women's economic activity and private education participation in the following semester.[9)]

As shown in <Table 1>, for children in elementary childcare classes, mothers' participation in the labor force was higher by 7.8%p than those not, and participating in after-school programs did not exhibit statistically significant results. As for the impact on women's working hours, elementary childcare classes increased 4.7 hours per week on average, but after-school programs did not show meaningful results.

The study also finds that when children attend elementary childcare classes, the likelihood of using private education drops by 8.5%p compared to when not, while after-school programs display no statistical significance. In the analysis of the impact of public childcare on private education costs, the results reveal that private education spending for elementary childcare users decreases by 38,000 KRW per month compared to non-users, and for after-school programs, about 15,000 KRW less a month.

When children attend elementary childcare classes, mothers are 7.8%p more likely to participate in economic activity and work for extra 4.7 hours per week on average, while they are 8.5%p less likely to use private education.

On the other hand, among the users of after-school programs, no statistically significant effects were observed in terms of women's economic participation, working hours, and the use of private institutes.

<Table 1> Impacts of Childcare Services on Women's Economic Participation and Children's Private Education

	Women's economic participation	Average working hours (weekly)	Children's private education	Private education expenses (monthly)
Elementary childcare class users	7.8%p↑	4.7hr↑	8.5%p↓	38,000 won↓
After-class program users	n.s.	n.s.	n.s.	15,000 won↓

Note: 'n.s.' means statistically not different from 0 at the 5% level.
Source: Reconstruction of results from Han (2019), p.56, p.60.

To sum up, the study shows that participation in elementary childcare classes brings about more positive results in terms of women's economic activity than in after-school programs, including reducing reliance on private education and associated expenses. Such results seem to come from how the two operate. Elementary childcare classes stay open until 5 p.m., while

9) In panel analysis, the problem of endogeneity can be resolved using the lag of the variable of interest (Bellemare., 2017). Accordingly, this study uses data on whether students used elementary care classes or after-school programs in the preceding semester to address the endogeneity issue. The data empirically analyzed in this study is the complied survey results from six districts of the highest three and the lowest three for their financial independence out of 25 autonomous districts in Seoul from the first semester of 2017 to the first semester of 2019. However, caution is needed in interpreting the estimated coefficient value because the variable of whether or not care classes or after-school programs were used in the previous semester is adopted as a variable as to whether to use the childcare services for the pertinent semester.

students can freely create a timetable from a list of various after-school program options. Although after-school programs are relatively accessible, as aforementioned, applicants risk not getting into programs they sign in due to a limited number of seats, and even after enrolled, these programs may not suffice to spend all after-school hours. In the end, women with dependent children face difficulty joining the labor force because they cannot find adequate care for their children during out-of-school hours.

3. Effects of Longer Regular School Hours on Parents' Choice

Longer school day debates began as parents found balancing work and childcare responsibilities challenging because they had nowhere to send their children for safe care after school due to the lack of accessible childcare. The debates of longer instructional hours, which result in delayed school dismissal, expect students to receive both education and childcare at school settings until the extended time and spend most out-of-school hours using care services schools offer. Given the expectations, this brings about a question of whether better childcare by schools would lead to students staying put after the regular curriculum for a big chunk of those hours.

This study bases its analysis on a probit model. Dependent variables include elementary childcare classes, after-school programs, and private academies. For each dependent variable, if participating, a value of 1 is assigned, and 0 if not. Also, this study empirically analyzes parents' responses on scheduling their children's after-school hours under the assumption that schools gradually put off children's dismissal time by one hour until 6 p.m. The left cell of each column in <Table 2> indicates the change in parents' choice for their children among the three options, considering the dismissal time as a continuous variable. The right cells show such selection changes of parents for one hour after school as the dismissal is pushed back to 3 p.m. and 4 p.m.

According to the results of the probit analysis, as for first graders, when elementary schools delay dismissal by one hour, the probability of using childcare classes and after-school programs decreases 3.2% and 9.7%, respectively, whereas the odds of attending private academies increase 17%. The results show that as time passes after dismissal, usage of private academies outsizes that of childcare services offered at school.

Next, the school dismissal at 3 p.m. and 4 p.m. is analyzed. Within one hour from 3 p.m., the analysis does not render statistically meaningful results on parents' choice of elementary childcare classes; however, they choose fewer after-school programs by 10.1% and more private academies by 21.1%. When dismissed at 4 p.m., within one hour, the probability of opting for elementary childcare classes and after-school programs decreases 6.4% and 19.7% each, whereas the odds for private academies increase 34.7%. To recap, the later regular schools end, parents tend to opt for private academies over school childcare services. As second graders exhibit similar results, further explanation is omitted.

Extended hours of the regular curriculum may not deter the use of private institutes.

The results obtained in this study suggest that it is improbable that extended regular school hours will deter private education attendance. What is more, suppose school day ends later for longer regular school hours. There may be an unintended effect of children gathering at private institutions after school to the equivalent of the lost out-of-school hours. It is noteworthy that the parental burden of childcare may remain the same as what takes place is only the replacement effect of the existing childcare hours by curriculum hours.

<Table 2> Effects of Delayed Dismissal on Parental Choice

	Elementary childcare classes (1)		After-school programs (2)		Private academies (3)	
1st grade in elementary school						
Delayed dismissal (continuous variable)	3.2%↓	-	9.7%↓	-	17%↑	-
For 1 hour after 3 p.m. dismissal time	-	n.s.	-	10.1%↓	-	21.1%↑
For 1 hour after 4 p.m. dismissal time	-	6.4%↓	-	19.7%↓	-	34.7%↑
2nd grade in elementary school						
Delayed dismissal (continuous variable)	2.7%↓	-	13%↓	-	18.2%↑	-
For 1 hour after 3 p.m. dismissal time	-	n.s.	-	13.4%↓	-	22.3%↑
For 1 hour after 4 p.m. dismissal time	-	5.4%↓	-	26.5%↓	-	37.5%↑

Note: 'n.s.' means statistically insignificant.
Source: Reconstruction of results in Han (2019), p.60.

However, it is not to argue for maintaining the present categorically low instructional hours. If regular classes replace childcare services that used to run until 3 p.m., childcare by schools is clearly strengthened as they can better care for children who could not get the service before the extension. Still, it should be stressed that private education consumption after school does not die down even after increasing curriculum hours. After all, to achieve the desired effect of longer regular school hours, authorities need to formulate policy measures conducive to a safe and caring environment for children to spend time at school after regular curriculum by substantially improving the quality of childcare.

In order to achieve the intended effect of longer regular school hours, authorities need to take policy actions for a significant quality upgrade of school childcare services.

IV. Conclusion and Policy Suggestions

In the context of the discussion and analysis results presented earlier, this study intends to provide policy suggestions for improving the elementary childcare system to keep pace with increasing women's economic participation.

First, the function of public childcare services needs to be redefined by laying down a legal groundwork for operating elementary childcare classes and after-school programs within the Framework Act on Education and the Elementary and Secondary Education Act. Considering the orientation of public childcare toward lower graders, setting the policy direction for education and childcare requires immediate attention. By redesigning the function of the two public childcare, authorities need to create an environment where children receive education or childcare of their choosing rather than a selective benefit based on their family background. To this end, an integrated operation of the two services is worth considering since the educational reality that education and childcare are hardly separable on the school grounds. By bringing them together, public childcare can enrich children with more program options, and they can pick and choose programs of their own accord. Foremost, similar programs between the two services need merging, and then those readily combinable need to do so one by one.

The function of care services needs to be redefined by establishing a legal basis for operating elementary childcare classes and after-school programs within the Framework Act on Education and the Elementary and Secondary Education Act.

Additionally, in the course of integration, authorities should be attentive to the vulnerable. The enrollment mechanism needs reform employing the principle of non-disclosure in giving high priorities to the children from underprivileged families and the rest to apply via a separate channel.

Elementary childare services need to stay open for longer hours and more applicants.

Second, childcare services need expansion. As the analysis shows that elementary childcare classes positively impact women's economic participation, expanding its service coverage can help women retain employment and enhance the incentive for their labor participation. The same goes for after-school programs. It is insufficient to properly respond to increasing women's workforce participation with the currently limited operations of public childcare. Expanding childcare services can serve as another incentive to entice women discouraged by childcare burden to enter or reenter the job market. The improvement needs to be accompanied by an expansion of childcare infrastructure as well as its coverage via easing eligibility requirements. Moreover, childcare services during school semesters need to expand or adjust contingent on parents' working conditions, and school vacations would be the times to actively seek collaboration with local village care centers. However, public childcare operations should be reformed according to childcare demand given the falling school-age population.

Elementary childcare services need a quality upgrade.

Third, the quality of childcare services needs further improvement. It is clear that the satisfaction level of parents with the service has improved compared to the past, but it is not necessarily to other comparable services. Many parents continue to send their children to private academies, and the analysis showing that they would still prefer private education even with extended curriculum hours also backs this observation. Then, a question to be followed is, the results would have been different should public childcare programs be similar in quality to private ones. Ultimately, it hinges on the quality of general childcare services to appeal to parents to confidently entrust schools with their children after regular curriculum. Also, it boils down to what extent the quality needs improving. For parents and children with sole concerns over learning ahead of school curricula and better academic performance, not over childcare, the level of excellence of public childcare is not a decisive factor. Social costs incurred by attracting them into in-school childcare are bound to be greater than appealing to those without such an academic agenda. Hence, it is important to generate policy momentum to carry out in-depth discussions on quality improvement under clear and detailed objectives of public childcare.

The approach of strengthening the childcare function of schools by increasing the regular school hours needs to be considered in connection with the current care policy.

Fourth, bolstering the childcare function of schools by longer regular school hours has to be reviewed together with the current childcare policy. The upsides of extended instructional hours include enhancing students' academic performance and narrowing the after-school childcare gap by offering more protection and supervision to students. Not only that, in the sense of ensuring educational equity, public education would further benefit children from low-income and disadvantaged families. However, as discussed, delaying school dismissal time with longer curriculum hours may have an intended effect of sending students to private academies instead of keeping them in school childcare programs after dismissal. In effect, the delay has the existing childcare services replacing regular class hours. Therefore, the issue of increasing regular school hours should be thoroughly examined within the education framework in connection with the most closely associated childcare policy.

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