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A Long School Day and Mothers' Labor Supply

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יום לימודים ארוך והיצע עבודה של אמהות

גל ישורון

תקציר

לזמינות סידורי השגחה על ילדים קטנים ולעלותם הנמוכה בדרך כלל השפעה חיובית מובהקת על היצע העבודה של ההורים. ואולם, העדויות האמפיריות הנוגעות להארכת יום הלימודים בבתי הספר, במסגרת מחייבת ובסבסוד מלא, דלות ואינן בנמצא בישראל. המחקר בחן את השפעת ההחלה ההדרגתית, בשלהי שנות התשעים, של יום לימודים ארוך בבתי ספר יסודיים בישראל – המהווה מעין ניסוי טבעי – על היצע העבודה של אמהות. הממצאים אינם מצביעים על קשר מובהק בין הארכת יום הלימודים לבין הסתברות ההשתתפות של אמהות בכוח העבודה, תעסוקתן, והיקף שעות העבודה השבועיות של אמהות עובדות.

A long school day and mothers' labor supply

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Abstract

The availability and low cost of childcare arrangements for young children generally have a significant positive effect on the labor supply of parents. However, empirical evidence related to lengthening the school day, within an obligatory and fully subsidized framework, is sparse, and not found in Israel. The research examined the effect of the gradual implementation, in the late 1990s, of a long school day in primary schools in Israel—serving as a quasi-natural experiment—on the labor supply of mothers. No effect was found for the extended school hours on mothers' probability of participation in the labor force, employment and weekly work hours.

1. Introduction

The availability of childcare arrangements for young children and the distribution of the financing burden between households and the public sector have been issues on the public agenda worldwide and in Israel for many years. Only recently, the issue resurfaced in Israel as part of the mass demonstrations of the summer of 2011. In the wake of these demonstrations, the report of the Committee for Economic and Social Change (the Trajtenberg Committee) included recommendations for instituting a long school day for all children aged 3-9, which were approved by the government and the Finance Committee of the Israeli parliament.

The considerations underlying childcare arrangements for children are primarily pedagogical. Alongside these, what is usually mentioned is the high financial cost of the arrangements, which is liable to reduce the labor supply of the parents, especially those whose earning power is relatively low. Hence, government subsidy of childcare arrangements is viewed as a way of encouraging mothers' participation in the labor force.

The connection between the cost of childcare arrangements and the parents' labor supply has been extensively examined in the empirical literature. Most research naturally focuses on pre-school-aged children and on non-compulsory educational frameworks. Against this, the research on lengthening the school day in primary schools, which in Israel are compulsory and free, is sparse and essentially non-existent.

The present study examines the effect of lengthening the school day in primary schools in Israel on the labor supply of mothers. In January 1998 the Israeli Government began the gradual implementation of the Long School Day and Enrichment Studies Law, 5757-1997 in some of the primary schools in different parts the country, by lengthening the school day in practice by about an hour-and-a-half on average each day (less than the time stipulated in the Law). First priority was given to pupils from weak socioeconomic backgrounds,. By the end of the research period, the mid-2000s, about a fifth of all pupils participated in a long school day, at a cost of more than NIS 300 million a year (about 7 percent of the expenditure on regular primary education).

The gradual implementation of the long school day created a quasi-natural experiment and provided a unique opportunity to examine the effect of lengthening the school day in primary schools on mothers' labor supply, by comparing the changes in mothers' labor supply in communities in which a long school day was instituted and the changes in labor supply of mothers with similar characteristics in communities that did not institute a long school day.

The research is based on the merging of administrative files of the Ministry of Education and labor force surveys of the Central Bureau of Statistics, according to residential locality.

The empirical findings do not indicate a significant connection between lengthening the school day and the probability of mothers' participation in the labor force, their employment, and the weekly work hours of working mothers. A possible major explanation for the findings indicating a lack of a significant effect of a long school day on the labor supply, and that could be examined in the future, is that a short lengthening of the school day is insufficient to enable mothers working part time to move to a full-time position. Furthermore, methodological difficulties arose that will be detailed below.

The structure of the study is as follows: Chapter 2 is devoted to a literature review; Chapter 3 describes the implementation of the long school day in the Israeli educational system; Chapter 4 presents the database and the research population; Chapter 5 describes the estimation method; Chapter 6 presents the results of the estimations; and Chapter 7 summarizes the study.

2. Literature review

The lengthening of the school day in the compulsory-free educational system is equivalent to granting a full subsidy for childcare at a given time and quality. In the static model of labor supply, in which the mother is generally the major person responsible for childcare, lengthening the school day embodies a combination of the income effect and the substitution effect on the supply of her work.[1] The lengthening constitutes a negative income effect for women who worked during the hours that were added as part of the long school day (for example, women working full time), but constitutes a positive substitution effect for women who did not work during those hours (for example, women working part time or not employed). It was thus unclear what the overall effect of lengthening the school day on mothers' labor supply would be.

The empirical literature examining the effect of the cost of childcare on mothers' labor supply is extensive. The accepted approach is that of estimating the connection between the cost of childcare arrangements for young children and the extent of the government subsidy, against the labor supply of women (cross-sectional research). Thus, for example, Blau and

[1] See Blau (2003) for a formulation of a model of this type.

Curry (2007) reviewed research in this vein in the United States, and found in the main a weak negative effect of the cost of childcare on women's participation in the labor force, and on their hours of work (employment elasticity between 0 and -1.26, and elasticity of the hours between 0 and -0.78). Further research in this vein and literature reviews can be found in Del Boca and Vuri (2007), Lundin et al. (2008), and Gong et al. (2010).

The large variance in the results of the cross-section research can be explained by methodological differences and the definition of the research population (married/single mothers, socioeconomic status or education, age of the young child, etc.). Thus, for example, Anderson and Levine (2002) found that employment elasticity relative to the price of childcare falls with education. Del Boca and Vuri (2007) connected the variance in the results with the high availability of childcare arrangements in countries in which these services are in public hands (as in most European countries), as opposed to the emphasis on the quality of the services in countries in which they are provided by the private sector (Australia, the United States, Canada, etc.). Note that the abovementioned research generally uses simultaneous estimations of the mothers' decision to go out to work and the decision regarding the purchase of childcare arrangements for the children.

Another approach in the literature, which is also implemented in this study, examines the effect of public childcare arrangements (fully or partially subsidized) on the supply of work, based on quasi-natural experiments. Blau and Curry (2007) examined research of this type conducted in the United States, which found a significant effect of instituting childcare arrangements on employment. Gelbach (2002), for example, examined the effect of free public education for 5-year-old children in the United States on mothers' labor supply by using children's birth quarter to identify the date of their registration for compulsory kindergartens (because only children who have turned five can be registered). He found a significant effect of free public education on mothers' labor supply—access to a free kindergarten raised the probability of mothers going to work by 4-5 percentage points (both married and single-parent). Berlinski and Galiani (2007) found that implementation of a program for expanding the supply of subsidized day-care centers in Argentina led to an increase of 12.5 percentage points in the probability of married mothers going to work, simultaneously with an increase in registration for kindergartens. For further research based on quasi-natural experiments, see: Baker et al. (2008), Lefebvre and Merrigan (2008), Cascio (2009), Havnes and Mogstad (2011).

Note that the approach reflected in research projects based on quasi-natural experiments views public education as a full subsidy for childcare, and is similar to the approach implemented in this research.

In the case of Israel, Shachar (not yet published) and Schlosser (2006; 2011) used various methods to examine the effect of childcare arrangements on young children and their cost, on mothers' labor supply. Shachar (not yet published) found in cross-section estimations that the elasticity of Jewish mothers' employment relative to the cost of childcare up to age 4 is -0.14 (a subsidy of one percent increases the chances of working by 0.14 percent). Furthermore it was found that the employment elasticity of uneducated women, of new immigrants and of ultra-Orthodox women, is slightly higher, and that the availability of a place for the child in subsidized frameworks in the vicinity has a significant negative effect on family childcare expenses.

Schlosser (2006; 2011) examined the effect of providing free pre-compulsory education in Israel on the labor supply of Arab mothers, in the wake of the gradual implementation of the Free Education Law for ages 3-4 from 1999, which constitutes a quasi-natural experiment. She found that the program raised substantially the learning rate of the kindergarten children, and their mothers' participation rate in the labor force. In particular, her research found that the availability of free pre-compulsory education led to an increase in the rate of participation in the labor force of mothers of children aged 2-4 by 7 percentage points, an increase of about 8 percentage points in the probability of their working, and a growth of about 2.8 in the number of weekly work hours. It was also found that the effect of the program was stronger among mothers whose youngest child was aged 2-4.

The empirical literature examining the connection between the cost of childcare arrangements and mothers' labor supply naturally focuses on young children until school age, both because of the high cost of the childcare arrangements and because of the large influence that the presence of toddlers in the household has on mothers' labor supply. The evidence on the effect of lengthening the school day of school children on their mothers' work supply is sparse. This is different from the former case, not only because the children are older, but also because the children's attendance in a long-school-day framework is not dependent on their parents' wishes but is compulsory; the availability of childcare arrangements is total and involves no cost.

To the best of my knowledge, the only research that has examined the connection between lengthening the school day and mothers' labor supply is that of Contreras et al. (2010). The researchers examined the effect of the gradual introduction of a long school day in primary and high schools in Chile on mothers' labor supply. They found a large positive effect on labor force participation and employment (elasticity of 0.05 and 0.03, respectively), and a large negative effect on work hours (elasticity of -0.6).[2]

Note that the school days in primary schools in Chile were lengthened on average by 1.4 hours, which resulted in a transition from 30 to 38 weekly school hours for pupils from 3rd to 6th grades, preference being given to introducing the program in schools with pupils from a weak socioeconomic background—which is similar to the Israeli situation, as detailed below—as well as in small schools, rural localities and high schools. The comparison group, it should be emphasized, included also schools with pupils from a strong socioeconomic background who did not participate in the long school day, which could well have skewed the estimation results.

Concurrently, many research projects examined possible additional benefits of lengthening the school day, particularly from a pedagogical perspective.[3] In the Israeli case, Rimon and Romanov (2009) examined the contribution of the Long School Day and Enrichment Studies Law, 5757-1997 on pupils' grades, as reflected in the Meitzav [acronym of school growth and efficiency] examinations in 5th grade in 2002-2003. Their findings do not show a clear positive effect of the implementation of the long school day on study grades, but they did find an effect of narrowing the gap in grades between pupils from weak and strong socioeconomic backgrounds, thanks to a more significant improvement in Meitzav grades of the pupils from the weaker background.

3. The institutional structure and the application

The Knesset first decided to introduce a long education day, which is also known as a "long school day" by means of the Long School Day Law, 5750-1990 (State of Israel, 1990)—see Figure 1. As formulated in the law, a school day of eight hours was meant to be introduced gradually in educational institutions by the beginning of the 5754 (1993/1994) school year,

[2] The estimations were based on the rate of pupils registered each year for a long school day in primary and high schools in each community.

[3] For a review of research on the pedagogical and the operational aspects of the long school day worldwide, see Shorek et al. (2005) and Bellei (2009).

but in light of various delays in its realization, the government decided in March 1995 to set up a public committee headed by Prof. Chaim Adler[4] to examine the long school day.

The Committee presented its recommendations to the Minister of Education in October 1996 (Ministry of Education, Culture and Sport, 1996; Adler and Blass, 2004), which included four major reasons for introducing a long school day: a) Improvement in the study grades of the overall pupil population; b) Narrowing the learning gaps between pupils from different population sectors; c) Reinforcing elements in the curriculum that were weakened by the budget cuts: d) Making it easier for parents who wish to work.[5] Against the backdrop of disagreements regarding the scope of implementation of the long school day—mainly the question of its introduction in all the primary and secondary schools and for the whole pupil population—the Committee supported the selective implementation of the long school day according to the pupils' needs.

Finally, the Knesset passed the Long School Day and Enrichment Studies Law, 5757-1997, which amended the 1990 law, and mandated the Ministry of Education to introduce a school week of 41 hours in all kindergartens and schools (State of Israel, 1997). In particular, the Law stipulated four days in which pupils would study for eight hours, an additional day of up to five hours, and up to four hours on Fridays. The purpose of the Law was defined as providing "equal educational opportunity for every child in Israel" and "broadening and deepening the pupil's knowledge", without explicitly defining the purpose of increasing the parents' labor supply. It was further stipulated that the Law would be applied gradually from the 5758 (1997/1998) school year, and that priority would be given to communities or neighborhoods needing additional educational assistance, and that the application would be completed by the 5764 (2003/2004) school year. The full application of the Law has been postponed several times since then in the Economics Arrangements Law and the economic policy laws.[6]

In the wake of the Law, the Minister of Education issued a Long School Day and Enrichment Studies Order (Applying to Educational Institutions), 5758-1998. The Order stipulates that the Law will be applied in educational institutions in rehabilitation and educational welfare neighborhoods, in communities with a national priority "A" rating,

[4] For details on earlier attempts to institutionalize a long school day in Israel see: Adler and Blass (2004), pp. 18-22; Ministry of Education, Culture and Sport (1996), pp. 9-22.
[5] For a review of the claims made in favor of introducing a long school day as a means for encouraging mothers' employment in Israel, see Kaul-Granot (2004).
[6] For details of the process that preceded the passing of the Long School Day and Enrichment Studies Law, 5757-1997, see also Gaziel and Blass (1999).

communities on the confrontation line, communities with a high unemployment rate, and communities in the first and second cluster of the socioeconomic index (State of Israel, 1998). The Order listed 100 local educational authorities in which the Law would be applied starting on January 1, 1998 (Table A-1). According to the Ministry of Education's directives of December 1998, long-school-day schools would receive a quota of 41 homeroom class hours[7] ("added weekly hours"); the extra hours would be added to the regular school day, and the extra hours would be given to the schools on a differential basis according to criteria such as nurturing needs, teaching hours for new immigrants, etc.[8]

By commencement of the long school day in January 1998 (the middle of the school year), the schools were not organizationally and pedagogically ready to implement the program (Gordon et al., 2001). Many schools implemented the Law only partially, with the result that not all the pupils received the additional hours (Blass and Adler, 2004). Claims were even made that the partial implementation was due to opposition among some of the professional echelon of the Ministry of Education to the format of the long school day as stipulated in the Law (Gaziel and Blass, 1999). In the initial years, the Law was meant to be implemented in 545 primary schools, but in the 1999/2000 school year it was implemented in practice in 441 schools (Figure 2 and A-2). The number of schools implementing the Law remained reasonably stable up to 2006. During these years about 150 thousand pupils participated annually in the long school day, approximately 20 percent of all primary-school pupils (Figures 3-4 and Table A-3). In the first stage, and in the spirit of the Law, the implementation of the long school day focused on primary schools whose pupils were from weak socioeconomic backgrounds (Figure 5).

In the 2003/2004 school year the 1998 Order was amended, stipulating that from the 2004/2005 school year and henceforth the Law would apply only to first to sixth grades, plus the addition to the list of five Bedouin municipalities: Al-Batouf, Hura, Lakiya, Arara in the Negev, and Segev Shalom (State of Israel, 2004; and also Table A-1). However, up to the 2004/2005 school year the Ministry of Education had avoided substantially extending the application of the Law (Vurgan, 2007). In the 2005/6 school year the Ministry of Education

[7] Schools running the Karev Program would receive 38 weekly classroom hours from the Ministry of Education, and three additional hours—to complete the 41 weekly classroom hours—would be provided by the Karev Foundation.

[8] The teaching personnel authorized to run the long school day would be qualified teachers, and particularly, tenured employees in the educational system who would receive additional working hours up to a 140-percent position. Later, collective agreements between the state and the Teachers Union stipulated that in the 2000/2001 and the 2001/2002 school years teaching employees who were assigned at least eight long-school-day hours would be entitled to a one-time grant of NIS 5,000 (Ministry of Education, 2000; Ministry of Education, 2001).

intensified its enforcement of the long school day in all schools in communities to which the Order applied. By virtue of the enforcement, about 150 schools were added to the list of those implementing the Law (see Figure 2 above).[9] In 2009 the application of the long school day was amended for the third time with the addition of the Abu Basma regional council (State of Israel, 2009b).[10] Furthermore, in that year the Law was amended so that schools participating in the Ofek Hadash [New Horizon] reform would be required to provide 37 weekly school hours, instead of 41 (State of Israel, 2009a).

The Long School Day and Enrichment Studies Law, 5757-1997 obligates the Ministry of Education, according to a 1999 High Court ruling (High Court of Justice 8437/99) to give priority to the full implementation of the long school day in all state educational institutions, and gives it the option of introducing a long school day also in the recognized, unofficial educational stream (mainly ultra-Orthodox). In practice, in the initial years of implementing the Law, about 15 percent of recognized, unofficial schools ran long-school-day programs (Figure 4 and Table A-2).

The Long School Day Law stipulates that the additional hours given to a school would be used completely for teaching the subject in question ("added weekly hours")[11] thereby lengthening the school week to at least 41 hours. Blass et al. (2012) found that from 2001 to 2004[12] the average gap in the number of added weekly hours per class in practice in primary schools (whose pupils were from weak socioeconomic backgrounds) that provided a long school day compared with schools that did not, was 7.1 hours in first and second grades, 5.8 in third and fourth grades, and 5.1 in fifth and sixth grades (see also Figure 6). In other words, in light of the directive to lengthen the school day for only four days a week, this added an average one-and-a-half hours a day in the lower grades. Gordon et al. (2001) found in a qualitative research project, which included a small number of schools at the beginning of the introduction of the long school day, that even if there were schools and kindergartens that built a weekly study program of 41 hours, not even half of the institutions actually ran a long school day.

[9] Starting in 2006 other programs were also implemented with a similar format, such as Milat (acronym for a supplementary study framework) or the first stage of The National Educational program (Dovrat Report), so that in practice the long school day was extended to other schools (Vurgan, 2007).

[10] Note that the long school day was applied throughout the period of the research also to schools in communities that do not appear in the Orders. These communities include Beit El (in 1999), Safed (starting in 1999), Mazra'a (staring in 2003), Betar Illit and Modi'in Illit (starting in 2005), and the regional councils of Sdot Negev (starting in 1999), Hof Aza (from 1999 to 2005), and Har Hebron (starting in 1999).

[11] As opposed to teaching in small groups, individual tuition, etc.

[12] No data are available for 2000 and 2005.

The annual budgetary expenditure for implementing the long school day in primary schools (excluding the expense on the Hot Lunch Program—details below) stood at around NIS 100 million in the years 1997-2000.[13] In subsequent years, in the wake of the sharp increase in the number of pupils participating in the long school day, the expenditure was doubled and even tripled, and in 2002-2007 it stood at an average of about NIS 360 million a year in 2000 prices (Figure 7)—which constitutes about 7 percent of the expenditure on regular primary education (excluding special education).

Following the implementation of the long school day, in the 2004/2005 school year a Hot Lunch Program was introduced in primary schools to which the Long-School-Day Order applied. The Hot Lunch Program was anchored in the Daily Meal for the Pupil Law, 5765-2005, but was not implemented in many institutions that had a long school day.[14]

Parallel to commencing the implementation of the long school day in primary schools in 1999, the Ministry of Education began an experiment in operating the long school day in compulsory kindergartens in communities in which the Long School Day Order applied (Vurgan, 2007). While the application of the long school day in primary schools remained reasonably stable in the initial years of applying the Law, in the kindergartens the experiment was extended substantially: from 147 kindergartens in the 1998/1999 school year to 527 in the 2000/2001 school year (Gordon et al., 2001). At its peak this experiment included a quarter of the kindergartens in communities to which the Order applies. In the wake of a public controversy, the implementation of the long school day in kindergartens was frozen in 2004 (State of Israel, 2004), but the Ministry of Education continued to budget its operation in those kindergartens that had participated in the experiment until that time. In 2006 the implementation of the long school day was extended by Order to compulsory kindergartens in 92 communities to which the Long School Day Order of 2004 applied, these being kindergartens in the six lowest clusters of the socioeconomic index (State of Israel, 2007).

In 2011, part of the agenda of the public protest was devoted to the heavy burden of household financing of childcare arrangements for small children. The report of the Committee for Economic and Social Change (the Trajtenberg Committee) included recommendations for instituting a long school day for all children aged 3-9, and a differential subsidy for lengthening the school day according to the communities' socioeconomic level.

[13] In the years preceding the application of the Long School Day and Enrichment Studies Law, 5757-1997, funds were made available in respect of the long school day, which served as a pilot study in a few schools and for other uses unconnected to the long school day (Gaziel and Blass, 1999).

[14] For details of the Hot Lunch Program see: Vurgan (2007), Bank of Israel (2009), and Vurgan (2009).

The recommendations were approved by the government, including instituting free public education for 3-4 year olds, subsidizing afternoon study frameworks for 3-9 year olds,[15] and expanding the supply of day-care centers starting in August 2012 (State of Israel, 2012). The Finance Committee of the Israeli parliament approved these amendments in the Budget Law of March 2012.

[15] In the first stage subject to an employment test of the parents. Later the scope of the subsidy would be determined according to the socioeconomic level of the local authority and the nurturing index of the school.

Figure 1: Major Milestones in the Institutional Development of the Long School Day, 1990-2009

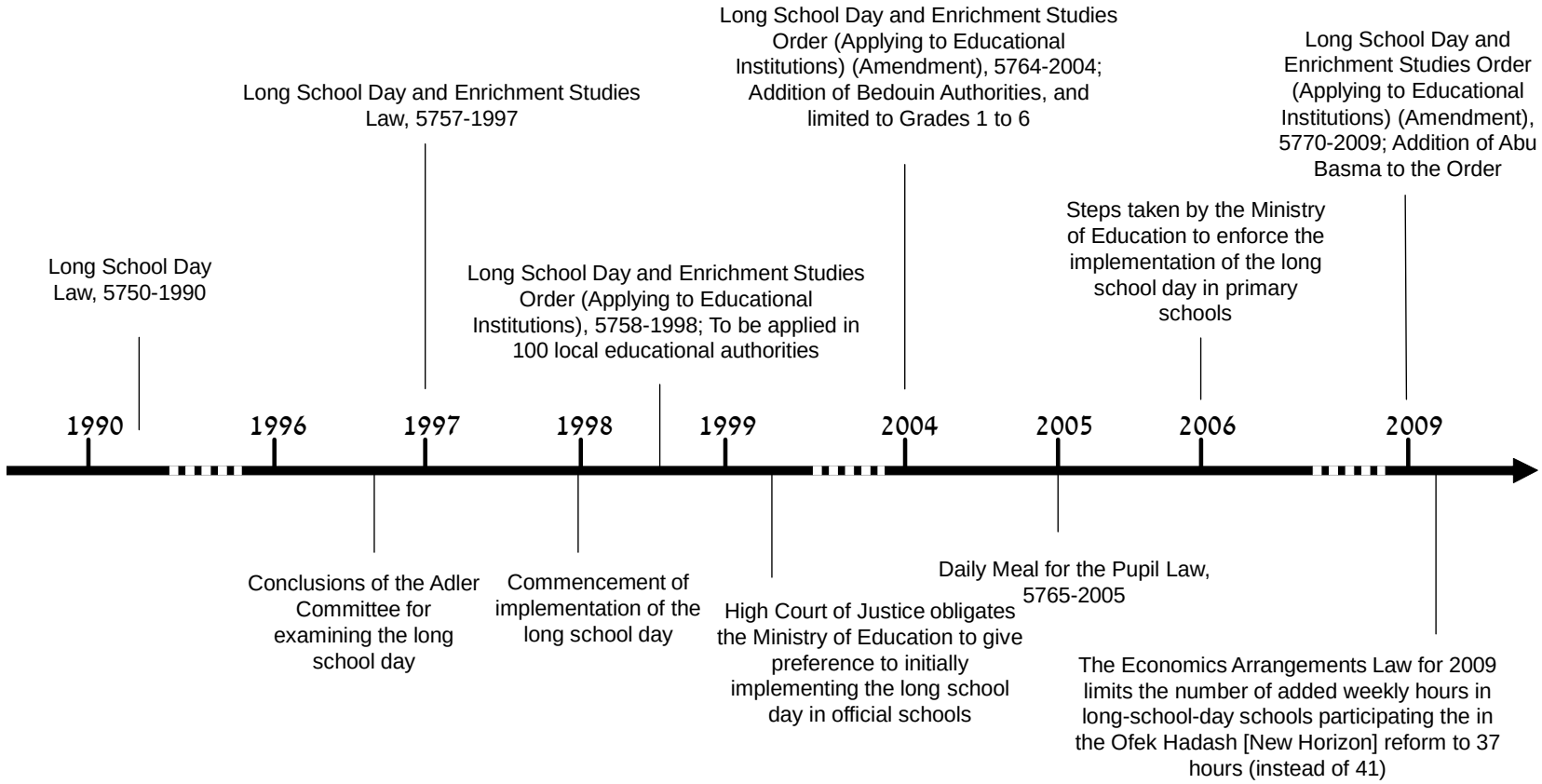
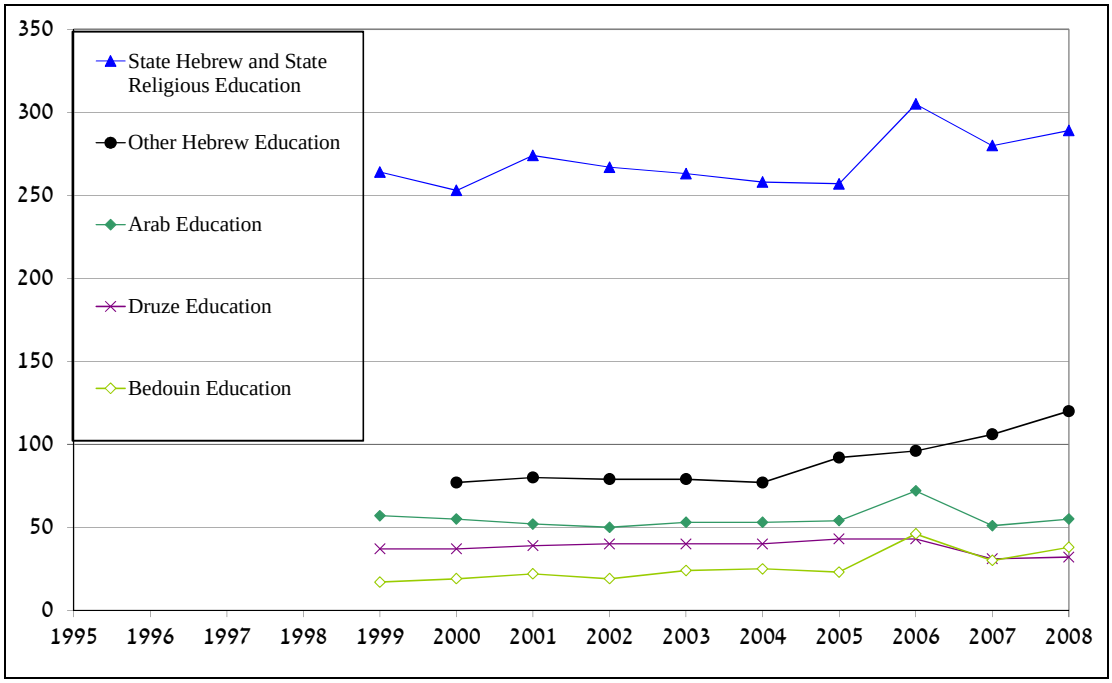
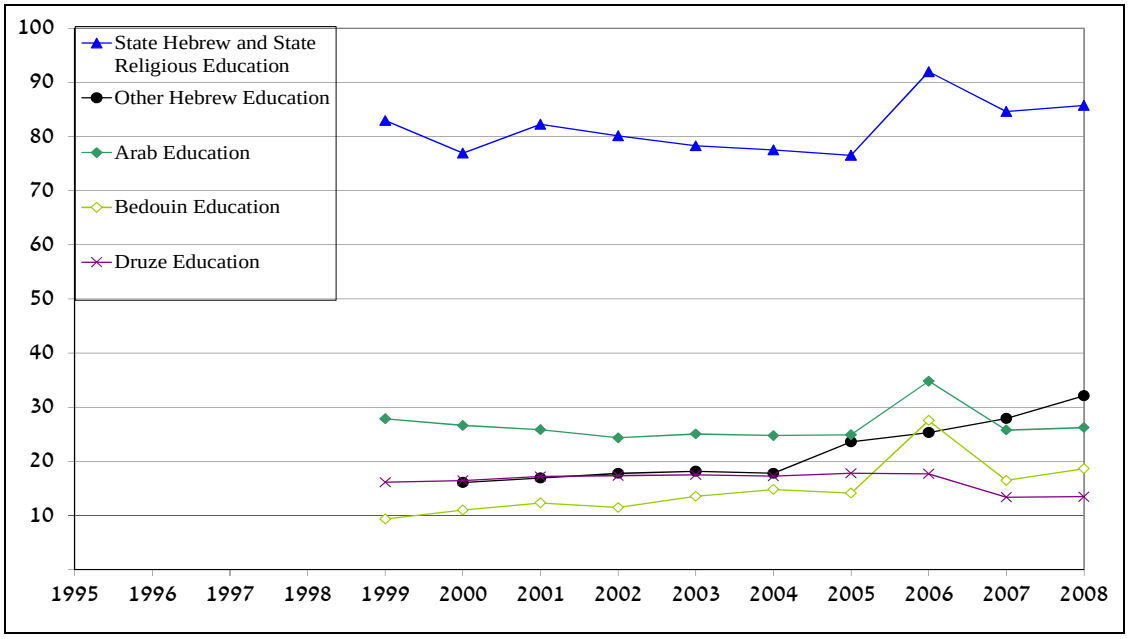


Figure 2: Number of primary schools implementing a long school day[1], by educational stream, 1995-2008[2]



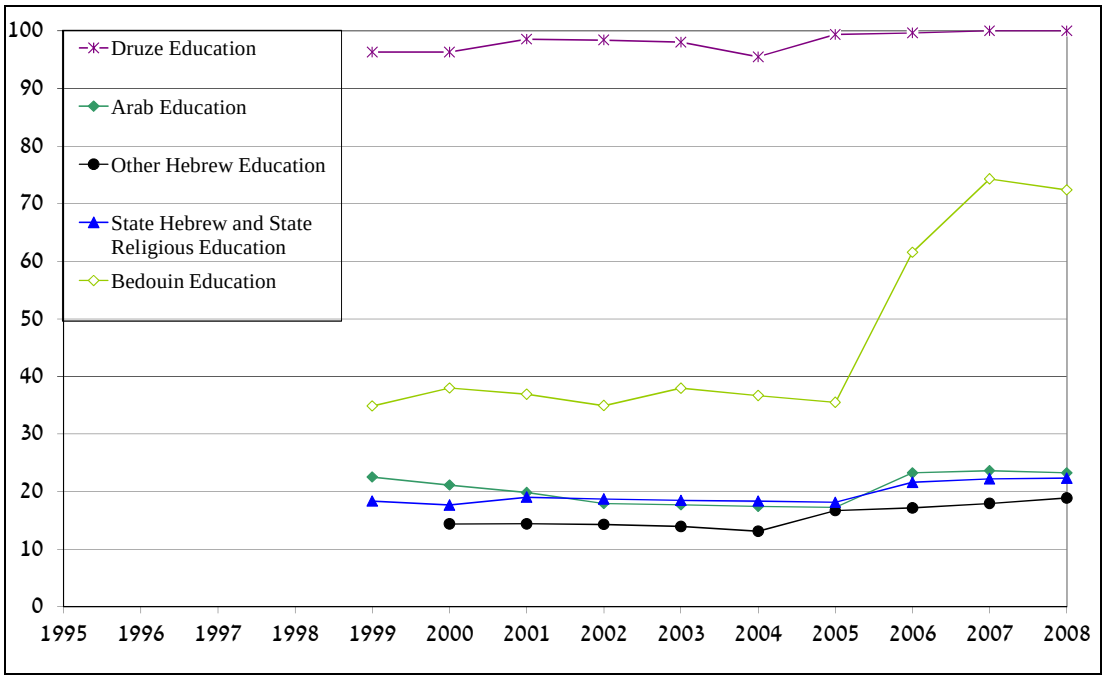
Source: Ministry of Education ("Mabat Rahav" [broad view]) and the author's compilations.
1) Excluding special education schools and medical institutions.
2) Data on long-school-day schools are available from 1999 for official education only, and from 2000 for the unofficial, recognized education system (mainly ultra-Orthodox).

Figure 3: Number of pupils in primary schools in which the long school day is implemented[1], by educational stream, 1995-2008[2] (thousands)



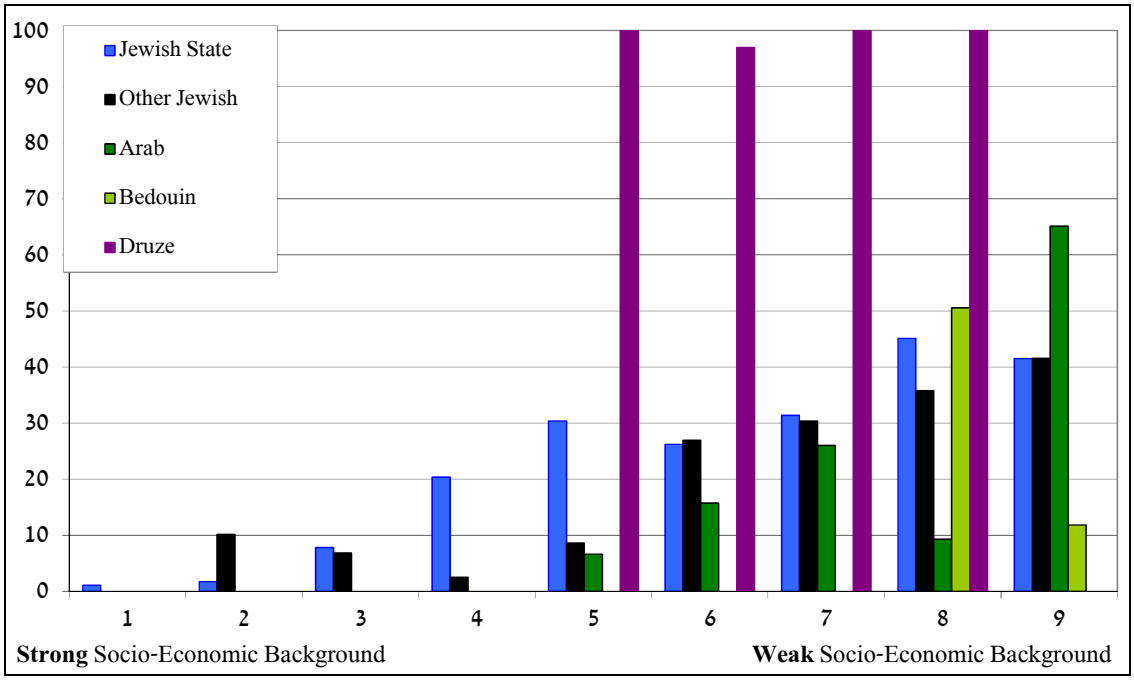
Source: Ministry of Education ("Mabat Rahav" [broad view]) and the author's compilations.
1) Excluding special education schools and medical institutions.
2) No data is available on the number of pupils in the schools in 1999. Therefore the number of pupils in the official primary schools that implemented the long school day in 1999 was assigned according to the number of pupils in those schools in 2000, on the assumption that the distribution of pupils by schools did not change between the two years.

Figure 4: The rate of pupils in primary schools[1] in which the long school day is implemented, by educational stream, 1995-2008[2] (percentages)



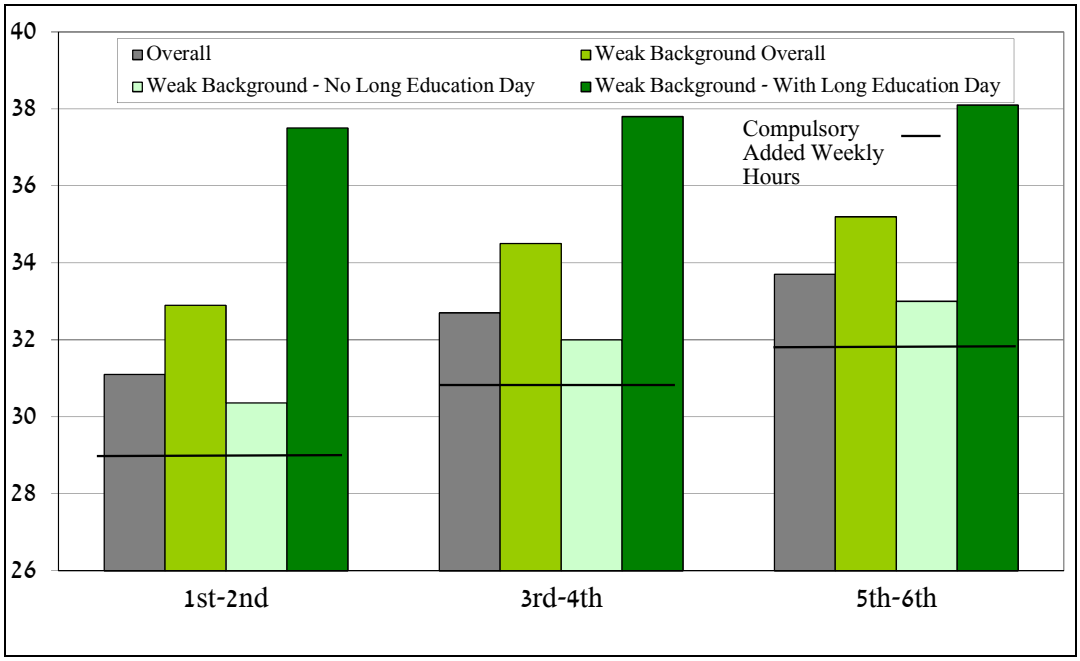
Source: Ministry of Education ("Mabat Rahav" [broad view]) and the author's compilations.
1) Excluding special education schools and medical institutions.
2) No data is available on the number of pupils in the schools in 1999. Therefore the rate of pupils in the official primary schools that implemented the long school day in 1999 was assigned according to the number of pupils in those schools in 2000, on the assumption that the distribution of pupils by schools did not change between the two years.

Figure 5: The rate of pupils in primary schools[1] in which the long school day was implemented in the 2002/2003 school year, by educational stream and nurturing index (percentages)



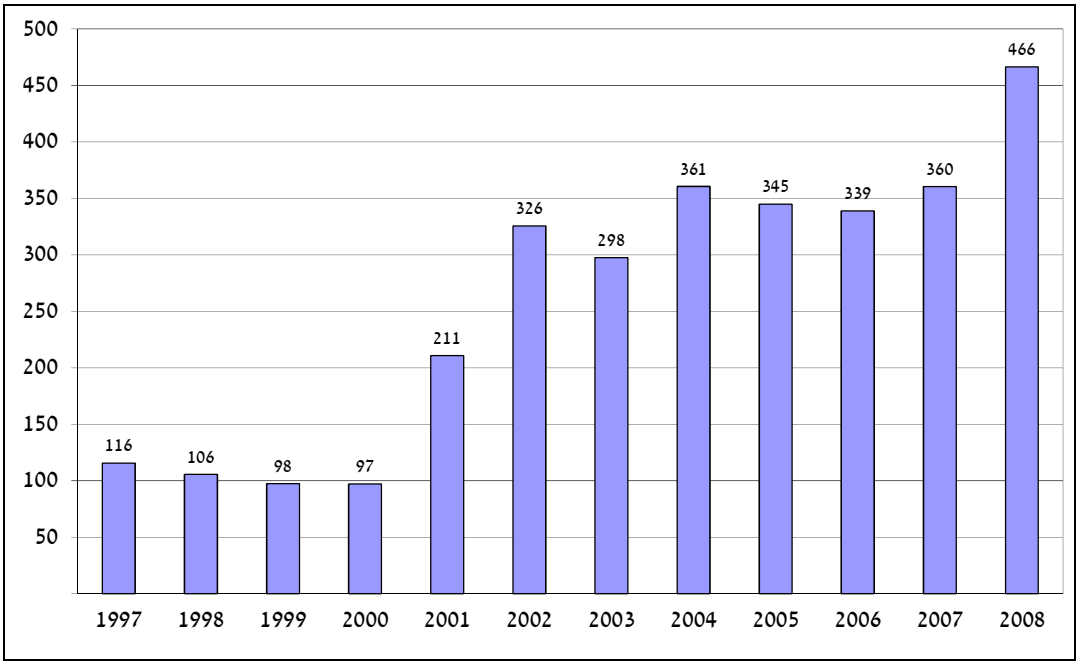
Source: Ministry of Education and the author's compilations.
1) Excluding special education schools and medical institutions.

Figure 6: The number of actual added weekly classroom hours of Ministry of Education primary school teachers[1], by class grade, pupils' socioeconomic background[2], and existence of a long school day, average from 2000/2001 to 2003/2004



Source: Blass et al. (2012), Table A-8
1) Regular official primary schools with 1st to 6th grades only.
2) Weak background – Nurturing deciles 8-10.

Figure 7: Expenditure on the long school day in primary schools[1], **1998-2008**
(NIS million, in 2000 prices)



Source: Ministry of Finance, Budget Division, online enquiry system; author's compilations.
1) Regulation No. 202619. The regulation does not include the Hot Lunch Program.

4. The database and definition of the research population

The database combines two sources: the educational institutions' files of the Ministry of Education, including information on the operation of the long school day, and labor force surveys of the Central Bureau of Statistics.

The years 1995-2005 were chosen as the research period, that is to say, a window of 4-5 years prior to and following the implementation of the long school day in the 1998/1999 school year. Note that after 2005 extension Orders of the long school day were introduced (see Chapter 3), and also the enforcement policy changed.

Files of educational institutions

The educational institutions' files appear on the Ministry of Education's site (called "Mabat Rahav" [broad view])[16] for the 1998/1999 and subsequent school years. Among other things, these files include data on the community in which the institution is located, its educational stream, number of pupils, and whether the long school day is being implemented. The institutions appearing in these files and that are included in the research population, are only regular primary schools and religious Talmud Torah schools (that is to say, excluding special education schools[17] and medical institutions).

Schools implementing the long school day appear in the files only from the start of the 1998/1999 school year, and for the unofficial, recognized education system (mainly ultra-Orthodox) only from the start of the 1999/2000 school year.[18] It should be emphasized that there is no information in the institutions' files on the number of hours that are included in the long school day, or how the hours are divided by class levels.

The research files specify the numbers of long-school-day pupils only from the 1999/2000 school year. Therefore, for the preceding school year the number of pupils in institutions that implemented the long school day in 1998/1999 was assigned according to the relative proportion of pupils in the official schools that implemented the long school day in 1999/2000 out of the total number of pupils in the community in that year. This is based on the assumption that there was no change in the registration characteristics of pupils for

[16] The data are freely available at: http://ic.education.gov.il/mabatrachav/HomePage.htm.

[17] Special education classes in regular schools as well as special education pupils who are integrated in regular classes, are included in the research population. The reason for excluding special-education schools is that they offered their pupils a long school day even before the long school day was instituted in regular schools.

[18] In the 1999/2000 school year the long school day was implemented in 77 ultra-Orthodox schools out of the 442 primary schools that implemented the long school day in that year.

primary schools in each community for these years (including the possible effect of the very implementation of the long school day).[19]

Labor force surveys

The Central Bureau of Statistics placed at our disposal the geographical version (the MUC version) of the labor-force-survey files, integrated with income-survey data,[20] for 1995-2008.

The research focused on women in light of the potentially greater effect of changes in childcare arrangements on their work supply compared with men.[21] Female respondents who were unlikely to be affected directly by the implementation of the long school day were removed from the research population (Table A-4, columns 3-5): a) Women who do not have children aged 5-14, which largely overlaps with the primary-school age;[22] b) Women with children younger than age 5 whose labor supply is likely to be affected by the existence of a long school day in kindergartens—the implementation of which does not overlap the implementation of the long school day in the schools—and by other intervention programs instituted during the research period and that also affect the childcare arrangements of young children (for example, expanding the day-care-center network in the Arab sector); c) Non-nuclear families (households that comprise also additional adults, including parents, siblings, and other relatives of the head of the household)—convenient childcare arrangements may be present in extended families); d) Women less than 20 years old and women older than 60, the latter on the assumption that most are past retirement age and do not require childcare arrangements.

The following female respondents were also removed from the research population (Table A-4, columns 6-7): a) New immigrants in their first three years in the country, whose patterns of joining the labor force have not yet stabilized; b) Those living in absorption centers and in institutions; c) Inhabitants of East Jerusalem, because the information on the availability of a long school day for their children is not reliable.

[19] According to Central Bureau of Statistics (2001), between the 1998/1999 school year and the 1999/2000 school year the number of pupils in primary schools in the State-Hebrew educational system grew by 2.3 percent, in the State-Religious system by 1.9 percent, the ultra-Orthodox system by 8.9 percent, and the Arab educational system by 4.5 percent.

[20] The income data are as follows: individual income from self-employed work and gross income from salaried work.

[21] In the labor force surveys for the investigation period, about 20 percent of women reported that taking care of the children was the main factor limiting their availability for work in general, whether working throughout the year or working full-time. The parallel proportion among men was less than 1 percent.

[22] In the labor force surveys, the children appear in age groups and not by precise age. The 10-14 age group includes also junior-high-school students.

Removal from the research population due to lack of identification of the long school day in the labor force surveys

The rate of the long school day in the community (taken from the educational institutions' files) was matched to each respondent in the labor force surveys according to nationality[23] and the school year in which the survey was conducted. Observations for which the effective week in the survey fell from the beginning of September to the end of the calendar year were attached to the following year.[24]

The geographical version of the labor force survey (MUC) includes identification of communities numbering more than 10 thousand residents in the survey year, so that it is possible to match for them the rate of implementation of the long school day in the community from the institutions' files of the Ministry of Education.[25] In order to create matching for smaller communities, where possible, the following geographical groupings were made of unidentified communities that have a long school day: all the Bedouin in the Southern District (except for those in Rahat who are identified separately), all the Druze inhabitants in the Golan sub-district, all the communities in the Ramat Hagolan Regional Council, Katzrin, the communities of Alon Shvut and Efrata as a single unit, the communities of the Gush Etzion Regional Council (excluding Alon Shvut), the communities of the Har Hebron Regional Council (excluding Kiryat Arba that is identified separately), and the Hof Aza Regional Council.[26] In a similar manner groupings of small rural or urban settlements were defined in which the long school day was not implemented, each of which belongs separately to the following sub-districts: Hadera, Rehovot, Petah Tikva, Ramle, Tel Aviv; or

[23] A respondent was defined as Jewish if she was born to parents of the Jewish religion, or an immigrant to Israel who is neither a Druze nor a Muslim. She was matched with the rate of long-school-day pupils in primary schools in the Hebrew educational system in her community of residence. A non-Jewish respondent was matched with the rate of long-school-day pupils in the Arab educational system (under Arab, Bedouin and Druze supervision) in her community of residence.
In addition, an ultra-Orthodox respondent was defined as one with an individual in her household whose last learning institution was a yeshiva or a midrasha gevoha. In this case she can be matched with the rate of long-school-day pupils in "other education" in her community of residence, and a Jewish non-ultra-Orthodox respondent can be matched with the parallel rate among the State-Hebrew and the State-Religious educational systems taken together. However, in light of the paucity of observations of ultra-Orthodox respondents, it was not possible to estimate separately the effect of the long school day on this population.

[24] For example, when the effective week is the first week of September 2000, the rate of the long school day will that of the 2000/2001 school year, which it is customary to call in short 2001.

[25] In order to maintain a fixed population of communities for which the rate of the long school day could be calculated in the investigation period, we removed from the initial research population all the communities that in 1995 had less than 10 thousand residents but that grew in subsequent years and were identified in the survey (Table A-4, column 8).

[26] The grouping of rural settlements in a Regional Council is possible only when the Council's area of jurisdiction does not cross sub-districts in which the long school day is implemented in rural settlements in one of them and in the other not.

to rural settlements in the Zevulun and Mateh Yehuda Regional Councils. Therefore, we did not include respondents in the research population living in sub-districts in which it is not possible to separate communities implementing the long school day from those that do not, as well as identified urban communities in which the long school day was implemented in only some of their neighborhoods (in the labor force surveys the residential neighborhoods are not identified)—Table A-4, columns 9-10.

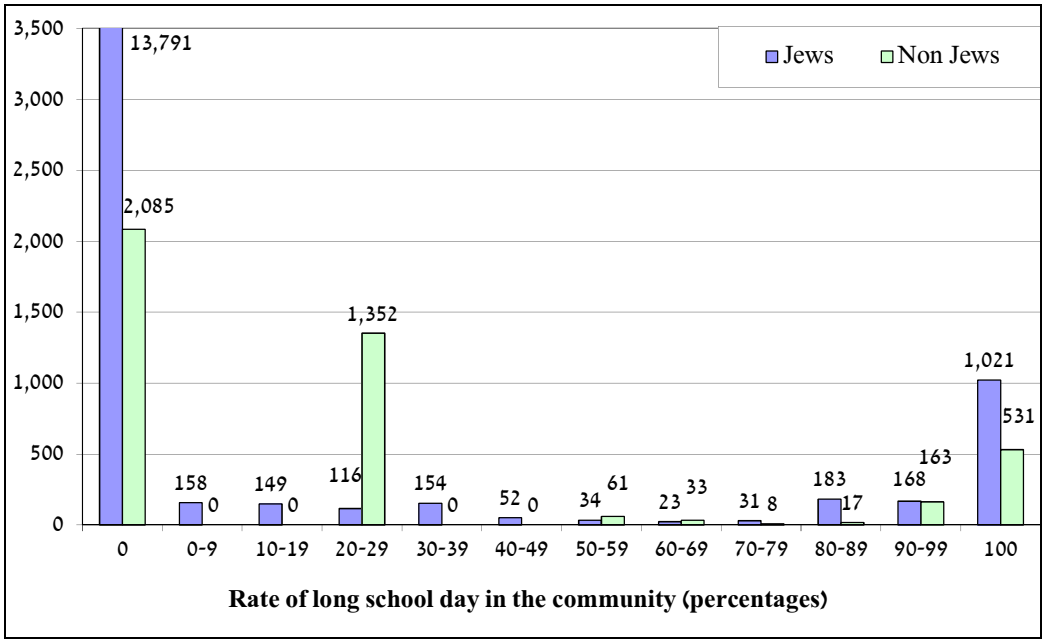
Observations were also removed in communities that implemented the long school day at a rate greater than 0 percent and less than 80 percent of the pupils living in them in 2003 (in the relevant sector)—Table A-4, column 11); this is because it is unclear the extent to which the primary-school-aged children of the respondent living in those communities indeed enjoyed the long school day. From Figure 8 we see that there is a justification for this lopping, in that the distribution of the rate of long school day in the research population is to a large extent polarized: a multiplicity of respondents living in communities that did not receive a long school day at all, as against a concentration of respondents living in communities in which more than 80 percent participate in a long school day, and particularly where the long school day is fully covered.

In the end, the research population included women in nuclear families with children aged 5-14, without younger children, living in communities/geographical groupings in which the long school day applied over the overwhelming majority in their area, or did not apply at all, and for which the rate of the long school day could be calculated. This resulted in about 30 thousand observations in the years 1995-2005.

From the overall research population, 2,700 observations were reviewed in long-school-day communities (the treatment group) and 27 thousand in other communities (the comparison group). An analysis of the characteristics of the treatment and the comparison groups (Table A-5) shows that the average age and percentage of married women is similar in both groups, while the average number of children per woman is slightly higher in the treatment group. The treatment groups is characterized by a higher percentage of Arab women, and a lower level of education among the Jewish women. As can be expected from the relatively weak socioeconomic characteristics of the communities in which the long school day was implemented, it was clear that the rate of participation in the labor force in the treatment group would be lower, and the rate of unemployment higher compared with the comparison group (and therefore that the rate of employment in the treatment communities would be lower).

The communities in the treatment group are located in weak to medium socioeconomic clusters, while the comparison group also includes many communities in medium to strong clusters (Table A-6 and Figure 9). Because of these differences, the comparison group was restricted to women residing in communities of weak to medium socioeconomic clusters (5 and less). Figure 10 shows that the mothers in the treatment group are more similar in the characteristics relevant to the labor market to mothers in the comparison group living in communities in the fifth and less socioeconomic cluster than to mothers in the comparison group in general.

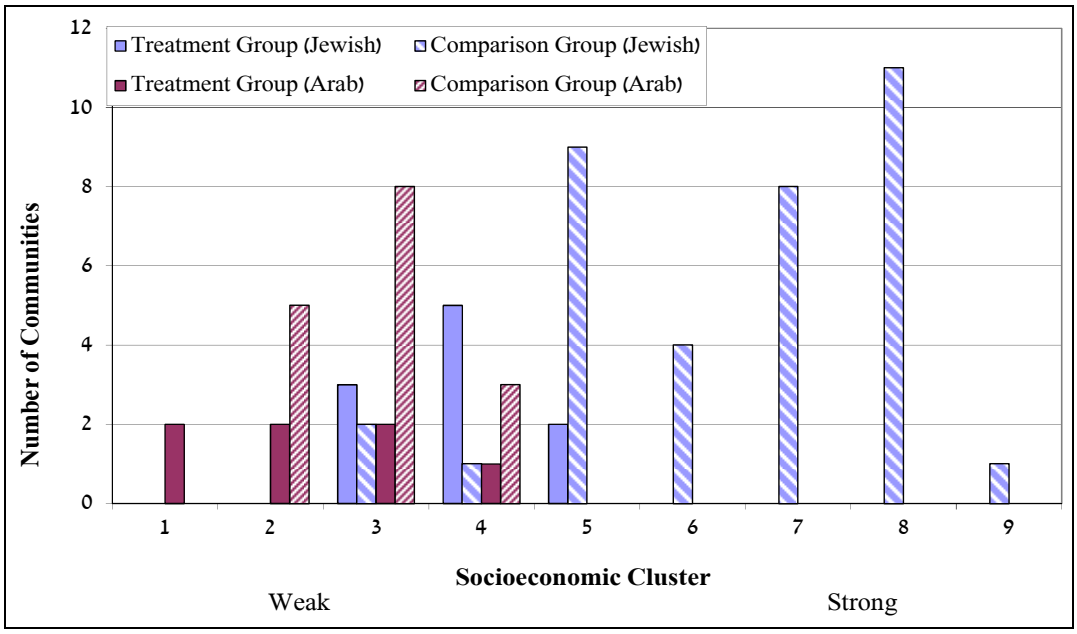
Figure 8: Number of observations in the research population[1], according to the rate of pupils in the long school day, and nationality, 2000-2005[2]



Source: Ministry of Education; labor force survey of the Central Bureau of Statistics and author's compilations.

1) The research population included observations only in communities in which the rate of pupils in the long school day was zero percent or 80 percent and above.
2) The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.

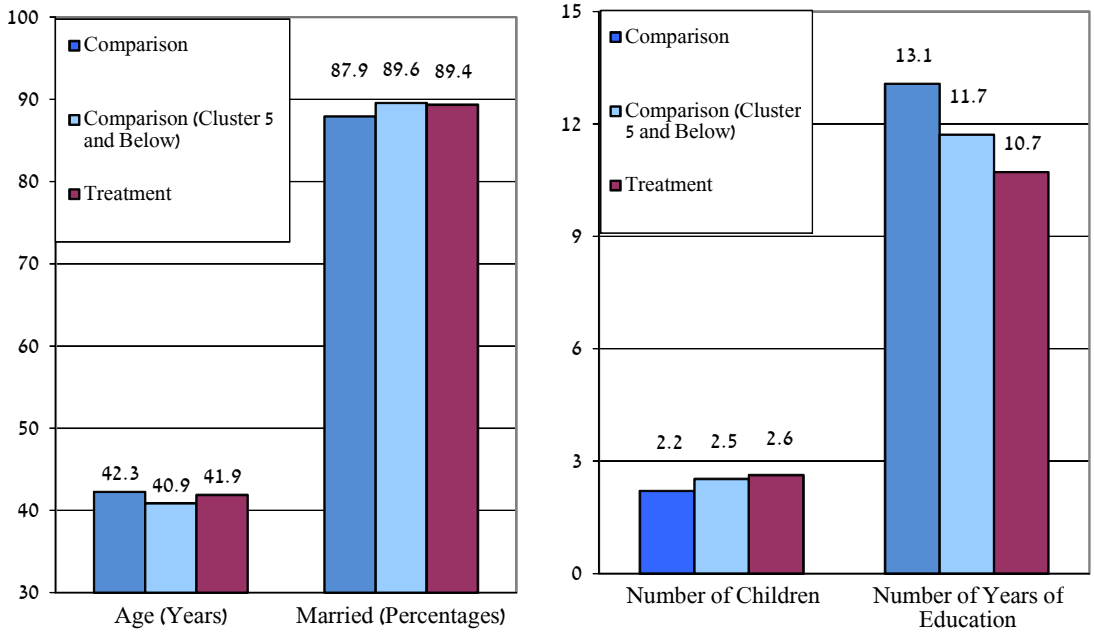
Figure 9: The distribution of communities by treatment and comparison groups according to socioeconomic cluster 1998[1] and nationality



Source: Ministry of Education, Central Bureau of Statistics (1999) and author's compilations.

1) Local authorities that were merged during the period of the research received a socioeconomic ranking according the population majority: Modi'in-Maccabim-Re'ut according to the Modi'in cluster; Baqa-Jat according to the Baqa al-Gharbiya cluster; Binyamina-Givat Ada according to the Binyamina cluster; Yehud and Neve Ephraim according to the Yehud cluster; Alon Shvut and Efrata according to Efrata. Rural settlements that were grouped as sub-districts (see Table A-5) were removed from the figure. Mixed communities are presented as Jewish communities.

Figure 10: Mothers' characteristics in the treatment and the comparison groups[1], 2003



Source: Ministry of Education; labor force survey of the Central Bureau of Statistics; Central Bureau of Statistics (1999); and author's compilations.

1) Classification of the socioeconomic clusters as detailed in Figure 9.

5. The estimation method

In order to examine the effect of lengthening the school day on mothers' labor supply, we estimated various versions of difference-in-difference models, similar to Schlosser (2006, 2011). The comparison was made between measures of mothers' labor supply in the treatment group and the comparison group, and between the period preceding and following the implementation of the Law. We present the following basic equation:

$$(1) \quad Y_{ijt} = \alpha D_{jt} + \beta' X_{ijt} + \varphi_j + \delta_t + \varepsilon_{ijt}$$

In which Y_{ijt} is the index of the labor supply of a woman i living in community j at time t (quarter and year). D_{jt} indicates the implementation of the long school day, and equals 1 in the years in which the rate of implementation of the long school day in schools in the educational stream to which the pupil belongs (Hebrew or Arab) was greater than or equal to 80 percent of the pupils in the community.[27] X_{ijt} indicates the background-characteristic vector, including: age, age squared, nationality, family status,[28] number of years of education, and number of children in the age groups 5-9, 10-14, and 15-17. Some of the models also control for income other than from work.[29] In addition, in separate examinations for Jewish nationality the explanatory variables new immigrant, years lived in Israel and affiliation to the ultra-Orthodox[30] stream were added, and for non-Jewish nationality we controlled for the religion of the household head[31] and the month of Ramadan.[32]

φ_j denotes the fixed effect of the community, while δ_t indicates the trend (quarterly and annual). ε_{ijt} is the error, which consists of a random factor of community over time, and a random factor at the level of the individual. The coefficient that interests us is α, which reflects the effect of lengthening the school day on mothers' labor supply.

[27] Netivot was also included; there the implementation rate of the long school day fluctuated around 80 percent throughout the research period.
[28] Married or other family status (unmarried, divorced, separated or widowed).
[29] Total household gross income, less the respondent's gross income from work. Income is reported in the fourth sampling stage of the labor force survey. Income is in January 1995 prices.
[30] Individuals in the household the last school attended by one of whose children was a yeshiva or a midrasha gevoha.
[31] Dummy variables for Christians and Druze relative to Muslims.
[32] School study days are shortened during the Ramadan period.

This model was estimated for the following work supply indices (Y_{ijt}): a dummy for participation in the (weekly) labor force,[33] a dummy for (weekly) employment,[34] and also the number of weekly hours generally worked.

The estimations were made for the overall research population (cross-section data), and also on a panel sample, which examines the change in labor supply of the same individual at different sampling stages, by comparing individuals in communities in which the long school day is implemented and communities in which it is not. Thus, the result variables examined in the panel sample were defined as a transition from non-participation in the labor force to participation (for women who did not participate in the earlier sampling between the two), a transition from non-employment to employment, and a change in the weekly hours generally worked (for women who were employed in the two sampling stages).[35]

In addition, we estimated the effect of introducing the long school day according to the time that had elapsed since its inception. To do this, we examined the following alternative of Model 1:

$$(2) \quad Y_{ijt} = \beta' X_{ijt} + \sum_{k=1}^{8} \alpha_k K_{kjt} + \varphi_j + \delta_t + \varepsilon_{ijt}$$

K_{kjt} (k=1,2,…, 8) obtains 1 if the long school day is implemented in community j for k years (at a rate of 80 percent and above in the relevant educational stream in year t).

6. Results of the estimation

The results of the estimations of the effect of implementing a long school day on the labor supply of mothers residing in communities in the 5-and-below socioeconomic cluster, is presented in Table 1. The estimators indicate a weak, negative and insignificant effect of the implementation of the long school day on mothers' participation in the labor force, on their employment, and on the number of weekly work hours, irrespective of whether the estimation controls for income not from work, or from work.[36, 37, 38] Several possible explanations could

[33] Obtains the value 1 if the respondent worked in the previous week, was absent from work or was looking for work.

[34] Obtains the value 1 if the respondent worked in the previous week or was absent from work.

[35] It would have been possible to identify the effect of the long school day on the labor supply within the treatment communities by comparing the mothers of primary-school-age children only, and mothers of post-primary-school children only (for whom the long school day does not apply). Because of the paucity of observations of mothers of post-primary-school children only, we were unable to conduct an estimate of this kind.

[36] The estimator of the effect of the long school day on the rate of participation/employment, should be interpreted as follows: implementation of the long school day raises the probability of participation/employment by the value of the estimator multiplied by one hundred, in terms of percentage points.

account for the absence of a significant effect of the long school day on the labor supply, primarily that the lengthening of the school day was too short and insufficient in most cases to provide an incentive to move from a part-time to a full-time job; and methodological difficulties (particularly the paucity of respondents in the treatment group).

As could be expected, the following control variables are positively matched with the growth in labor supply: age, few children (especially young children), Jewish nationality, years of education, and low income not from work.[39] The results of the estimations indicate that there is room to add the fixed effects of the community, because of the existence of differences in the unobserved characteristics of the women living in the treatment communities compared with the comparison communities, and/or in the spatial characteristics of the labor market they have to deal with. Controlling for the regional unemployment rate of women in each year and quarter (according to educational level), in addition to controlling for the fixed effects of the community and the trend, did not substantially affect the estimators and their significance.[40]

With the aim of examining a possible differential effect of implementing the long school day on women of different nationalities, age and education, the model in Equation 1 was estimated also for these sub-populations. The research population was thus divided according to nationality (Jewish/non-Jewish), education (up to and more than 12 years of education), and age (up to and older than 35).[41] Most estimators of the effect of the long school day on

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[37] The results of the estimation of the effect of implementing the long school day on mothers' labor supply in *all* the communities (including communities in the comparison group rated socioeconomically intermediate-strong) are presented in Table A-7. Similar to estimations in Table 1, no effect was found for the long school day on participation and employment. The long school day did have a greater and more significant negative effect on weekly work hours—a significant decrease of 2.8 weekly working hours among employed women; however, in the estimates presented in Table 1 the estimator becomes insignificant in some cases.

[38] In a further similar estimation (not presented) it transpired that among part-time employees the percentage of those who responded that the reason for working part time was taking care of the children (housewives) was not significantly affected by the long school day. Because of the paucity of observations in the treatment group, no unequivocal conclusions could be reached from these results.

[39] When the explanatory variable of income not from work is replaced by the log of income not from work—in order to take into consideration non-linear effects of income on labor supply—the estimator of the long school day remains virtually unchanged.

[40] A further examination of the existence of a differential trend in the labor supply between the communities in the treatment group and those in the comparison group could be based on comparing the changes in mothers' labor supply in the period prior to and close to the implementation of the long school day (for example, 1995-1998) with an even earlier period (for example, 1990-1994), to changes in the labor supply between the period prior and close to the implementation of the long school day to the period after the implementation of the long school day (1999-2005); unfortunately we do not have data prior to 1995 on the variation in the difference in differences. For the same reason we were unable to include a "placebo", that is to say, to assume fictitiously that the long school day was introduced in the second half of the 1990s.

[41] We decided on age 35 to differentiate between a group of young mothers who already have children of primary-school age (in other words, who gave birth up to the end of their twenties), and older mothers of children of this age.

the participation, employment and work hours of the sub-populations were found to be negative and insignificant (Table 2). Estimators of the effect of the long school day on young Arab mothers' participation and employment were found to be negative and significant (even though there were slightly more observations).

We also attempted to identify the differential effect of the implementation of the long school day according to the socioeconomic cluster of the local authority. This was done by adding an interaction variable of implementation of the long school day and the cluster. This examination produced larger and insignificant estimators for the long school day; no effect was found for the interaction variables or for the p-value test of the joint significance of the long school day and the interaction (the findings are not presented).

The mothers whose labor supply was examined had children aged 5-14, which included mothers with post-primary-school children (aged 13-14). Separate estimations were therefore conducted only for mothers with children aged 5-9, which enables us to identify the differential effect of the long school day on the labor supply of mothers of smaller children. Table A-8 presents the estimation results in which the comparison group includes only communities graded 5 and less on the socioeconomic scale. These estimations show that the effect of the long school day on labor supply remained negative and insignificant, and the estimators were greater than those obtained previously.[42]

Estimations that included non-nuclear families in the research population living in communities 5 and less on the socioeconomic scale cluster (an addition of about a quarter to the number of observations), produced similar results to those described above, in which the estimator of the dummy variable of the non-nuclear family was negative and significant. In estimations in which an explanatory variable of interaction between a non-nuclear family and a dummy for the long school day were added, no effect was found for the estimators of the long school day and the interaction.

It could be expected that the implementation of the long school day would lead women to seek work in the educational system, as well as increase the number of work hours of those who were employed previously as teachers and who expanded the scale of their position (see

[42] As expected, estimations that included mothers of 10-17-year-old children (in communities 5 and less on the socioeconomic scale) produced smaller and insignificant estimators of the long school day. Bear in mind that this age group includes also 10-12-year-old children, most of whom attend primary school and are therefore entitled to the long school day.

Footnote 8 above). Estimations from which women whose occupation was teaching[43] were removed, produced similar results (not presented).

Table 3 presents the results of *panel* estimations of the effect of the long school day on changes in the labor supply. This refers to changes in the work supply of a given mother between two points in time, the gap between them being four or five quarters (in the case of four quarters—this refers to the parallel quarter in the previous year, which eliminates the seasonality issue). The results indicate no significant effect of the implementation of the long school day on changes in the labor supply. However, the number of observations in the panel estimations is limited, particularly the number of those in the treatment group, and we thus could not reach any unequivocal conclusions.[44]

It can be assumed that the effect of the long school day on the work supply will intensify as its implementation continues, particularly in light of the difficulties that arose initially in assimilating the program. The results of the estimation of the effect of implementing the long school day according to the *time interval* that elapsed since the start of its implementation (Equation 2) is presented in Table A-9. Ostensibly, the results indicate a significant negative effect of the long school day on the labor supply in the initial years of its implementation, which weakened with the continuing implementation of the long school day in the community in the case of participation and employment, even to the extent of becoming insignificant in some cases, while it remained negative and significant in the case of work hours. It should be emphasized that for about 90 percent of the communities in the treatment group, the implementation of the long school day began in 1999, and there is thus an almost complete overlap between the number of years of implementation of the long school day in the community and the trend, so that the two cannot be separated. Hence, one cannot rely on the results of the above estimations.

[43] According to the Standard Classification of Occupations (the Central Bureau of Statistics, 1994), this refers to about 10 percent of the observations in the research population in communities 5 and less on the socioeconomic cluster, and to about 15 percent of working women.

[44] The implementation of the long school day could have been expected to differentially affect the number of work hours of women who worked full-time prior to the implementation, as against women who worked part-time (particularly, fewer than 32 weekly hours—the overall "added weekly hours" in primary education prior to implementation of the long school day), in that a negative substitution effect operates on the former, and a positive income effect on the latter. In additional panel estimations (not presented), which included a variable indicating whether the respondent works full time (more than 32 weekly hours of work at the first sampling stage) and an interaction variable of a full-time position with implementation of the long school day, the estimations of the long school day and the interaction remained insignificant. The estimator of the effect of the full-time position on change in the weekly work hours was found to be negative and significant.

Table 1: Estimators of the effect of the long school day on mothers' labor supply—comparison communities in socioeconomic cluster 5 and below[1]

	Participation		Employment		Weekly Work Hours	
	(1)	(2)	(3)	(4)	(5)	(6)
Long school day	-0.016 (0.026)	-0.016 (0.026)	-0.020 (0.025)	-0.020 (0.025)	-1.876 (1.139)	-1.897* (1.123)
Age	0.040*** (0.013)	0.040*** (0.013)	0.047*** (0.013)	0.047*** (0.013)	-0.038 (0.528)	-0.032 (0.532)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001 (0.007)	-0.001 (0.007)
Married	0.018 (0.020)	0.018 (0.020)	0.058*** (0.019)	0.059*** (0.019)	2.284** (0.920)	2.337** (0.981)
Number of children aged 5-9	-0.054*** (0.012)	-0.054*** (0.012)	-0.046*** (0.011)	-0.046*** (0.011)	-1.684*** (0.290)	-1.678*** (0.286)
Number of children aged 10-14	-0.031*** (0.010)	-0.031*** (0.010)	-0.033*** (0.010)	-0.033*** (0.010)	-1.600*** (0.303)	-1.600*** (0.304)
Number of children aged 15-17	-0.015 (0.009)	-0.014 (0.010)	-0.016 (0.010)	-0.015 (0.010)	-0.541 (0.325)	-0.537 (0.327)
Jewish	0.384*** (0.027)	0.384*** (0.027)	0.356*** (0.029)	0.355*** (0.029)	5.705 (4.889)	5.698 (4.918)
Years of education	0.035*** (0.003)	0.035*** (0.003)	0.038*** (0.003)	0.038*** (0.003)	0.320** (0.137)	0.323** (0.136)
Income not from work	-	0.000 (0.000)	-	0.000 (0.000)	-	0.000 (0.000)
Constant	-0.692*** (0.239)	-0.694*** (0.240)	-0.935*** (0.236)	-0.939*** (0.238)	32.188*** (9.980)	31.961*** (10.097)
Trend	√	√	√	√	√	√
Permanent effects on the community	√	√	√	√	√	√
Number of observations	12,402	12,402	12,402	12,402	5,936	5,936
Number of communities	41	41	41	41	41	41
Adjusted R^2	0.397	0.397	0.326	0.326	0.055	0.055

1) The standard errors corrected for correlation at the community level are indicated in parentheses. The asterisks (*, **, ***) indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively. The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.

Table 2: Estimators of the differential effect of the long school day on mothers' labor supply—comparison communities in socioeconomic cluster 5 and below[1]

		Jews			**Non-Jews**[2]	
		Participation	Employment	Weekly Work Hours	Participation	Employment
By age	Up to 35	0.000 (0.046)	-0.001 (0.065)	-1.527 (1.705)	-0.143* (0.080)	-0.148* (0.082)
	Above 35	-0.014 (0.039)	-0.019 (0.036)	-0.03 (0.036)	0.017 (0.051)	0.016 (0.051)
By education	Up to 12 years	-0.008 (0.034)	-0.025 (0.026)	-0.809 (1.194)	-0.015 (0.045)	-0.014 (0.042)
	Above 12 years[3]	-0.008 (0.043)	0.022 (0.056)	-2.068 (2.199)		
Number of observations		8,385	8,385	5,227	4,017	4,017

1) The dependent variables and the control variables were defined in a similar manner to Table 3, without controlling income not from work.
2) The standard errors corrected for correlation at the community level are indicated in parentheses. The asterisks (*, **, ***) indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively. The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.
3) The estimators of the effect of the long school day on working hours of Arab mothers was not reported due to the paucity of observations.
   The estimators of the effect of the long school day on educated Arab mothers (above 12 years of education) was not reported due to the paucity of observations

Table 3: Estimators of the effect of the long school day on the change in mothers' labor supply—panel estimations

	Transition from non-participation to participation	**Transition from non-employment to employment**	**Change in the number of working hours** (hours)		
	Difference of 4 quarters[2]	Difference of 4 quarters[2]	Difference of 4 quarters[2]	Difference of 5 quarters[3]	Difference of 5 quarters[3] and controlling for income
	(1)	(2)	(3)	(4)	(5)
Long school day[4]	-0.048 (0.050)	-0.086 (0.070)	0.999 (0.953)	-0.485 (0.759)	-0.492 (0.757)
Age	-0.010 (0.026)	-0.020 (0.020)	0.433 (0.271)	-0.183 (0.530)	-0.179 (0.532)
Age squared	0.000 (0.000)	0.000 (0.000)	-0.005 (0.003)	0.001 (0.006)	0.001 (0.006)
Married	-0.096** (0.038)	-0.030 (0.035)	0.095 (0.393)	-0.205 (0.675)	-0.173 (0.712)
Change in family status[5]	0.043 (0.094)	0.130 (0.085)	-1.294 (1.758)	-0.696 (1.164)	-0.674 (1.198)
Number of children aged 5-9	-0.016 (0.015)	-0.027** (0.014)	-0.354 (0.329)	-0.689 (0.456)	-0.691 (0.454)
Number of children aged 10-14	-0.004 (0.010)	-0.013 (0.014)	-0.322 (0.243)	-0.612 (0.382)	-0.610 (0.387)
Number of children aged 15-17	0.001 (0.013)	0.001 (0.013)	0.067 (0.315)	0.354 (0.371)	0.354 (0.371)
Nationality	0.287** (0.116)	0.144*** (0.050)	3.633** (1.517)	4.740** (2.128)	4.751** (2.115)
Years of education	0.005 (0.003)	0.008** (0.003)	0.008 (0.065)	0.038 (0.069)	0.040 (0.071)
Controlling for year and quarter	√	√	√	√	√
Income not from work[6]	-	-	-	-	0.000 (0.000)
Number of observations	2,032	2,452	4,269	2,031	2,031
Adjusted R^2	0.125	0.113	0.004	-0.001	-0.001

1) The dependent variable is a binary variable indicating the mother's joining the labor force (if she did not join in the first panel), the start of employment (if she was not employed in the first panel), and the change in the usual number of weekly work hours (if she worked in the two panels). Background variables, family status, number of children, and years of education are according to the first panel. The estimations included also women in the comparison group living in communities in socioeconomic clusters above 5; women who gave birth during the review period were not included. The standard errors corrected for correlation at the community level are indicated in parentheses. The asterisks (*, **, ***) indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively. The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.
2) The third sampling stage is compared with the first sampling stage, and the fourth sampling stage with the second sampling stage, so that an average gap of a year is obtained between the observations.
3) The fourth sampling stage is compared with the first sampling stage, so that an average gap of a year-and-a-quarter is obtained between the observations. In view of the paucity of observations, parallel results of the transition from non-participation to participation and from non-employment to employment are not presented for the difference of 5 quarters.
4) The long school day was defined as a dummy variable that obtains the value 1 in the case of implementation of the long school day for 80 percent and above of the primary school pupils in the community (according to nationality), and the value 0 when the long school day is not implemented at all in the community.
5) A variable that obtains the value 1 if she married, 0 if she remained with the same family status, and -1 if she divorced.
6) Income not from work was defined as the total household gross income less the respondent's income from work. Income is reported at the fourth sampling stage for each respondent.

7. Conclusion

The public sector invests considerable resources in financing childcare arrangements for young children, among other things, to make it easier for women to work. At the end of 1998 a long school day was instituted in primary schools in Israel, with an emphasis on pupils from a weak socioeconomic background. School day was lengthened by one-and-a-half hours on average, fully financed by the state. The program was intended primarily to meet pedagogic needs, and one of the possible benefits of its implementation was to increase mothers' work supply. An extensive empirical literature has examined the connection between the cost of childcare arrangements of young children up to primary-school age and their parents' work supply; evidence of the effect on school pupils of lengthening the school day is, however, sparse and non-existent in Israel.

The present study examined the effect of implementing the long school day on mothers' labor supply in the course of the gradual inauguration of a long school day, which constitutes a quasi-natural experiment. The study is based on the Ministry of Education's data on the implementation of the long school day at the community level, coupled with labor-force surveys of the Central Bureau of Statistics.

The findings do not indicate a statistically significant effect of the long school day on women's participation in the labor force, on their employment, or on the weekly work hours of working mothers. Furthermore, one cannot infer from the findings that a statistically significant differential effect exists for sub-populations (uneducated women, Arab women etc.).

Several explanations can be offered for the absence of an effect of the long school day on the labor supply, and these could be examined in the future: insufficient lengthening of the school day, which does not enable mothers working part time to change to full-time employment; also, the long school day is not implemented on one of the days between Sunday and Thursday, and there is also a mismatching between the school vacations and the usual vacation period in the economy (Almagor-Lotan, 2012). Methodological difficulties were also evident—a paucity of respondents whose children participated in the long school day; unobserved differences between the characteristics of the mothers whose children participated in the long school day and the labor market they had to deal with, and those of the mothers in the comparison group; inability to link at the respondent's level between the length of her children's school day and her labor supply.

The research examined the effect of instituting a long school day on mothers' labor supply. Future research should examine the effect of the *length* of the school day on the supply of their work, subject to the availability of data, which will help to examine the extent of the benefit of extending childcare arrangements for primary-school-age children, as was proposed in the report of the Committee for Economic and Social Change (the Trajtenberg Committee) and approved by the government at the beginning of 2012.

APPENDIX

Appendix A-1: Local authorities to which the long school day applies, and the rate of its implementation

Education Authority[1]	Year in which the Order was Applied	Rate of Pupils in Long School Day by School Year (Percentages)		In Treatment Group[2]
		1998/1999	1999/2000	
Abu Sinan	1998	100	100	Yes
Abu Basma	2009	0	0	No
Ofaqim	1998	100	100	
Or Aqiva	1998	100	100	Yes
Elat (schools in the Ye'elim, Ofir, and Arava neighborhoods)	1998	29	2	No
Al Batouf	2004	0	0	No
Ibbilin	1998	97	97	Yes
Ariel	1998	100	100	Yes
Eshkol	1998	100	100	No
Ashqelon (Schools in the Shimshon neighborhood)	1998	47	47	No
Be'er Sheva (Schools in the Gimmel and Dalet neighborhoods)	1998	26	14	No
Buq'ata	1998	100	100	Yes
Bir-El-Maksur	1998	0	0	No
Beit Jann	1998	100	100	Yes
Bet She'an	1998	100	100	Yes
Bet Shemesh (Schools in the Old Area, and Northern neighborhoods)	1998	72	57	No
Bene Braq (Schools in the Vishnitz, Hey, Vav, Neve Ahiezer, Pardes Katz, Abu Lavan neighborhoods)	1998	16	16	No
Bikat Bet She'an	1998	55	55	No
Bat Yam (Schools in the Amidar and Nitzana neighborhoods)	1998	3	3	No
Judeide	1998	100	100	No
Julis	1998	100	100	Yes
Jisr Az-Zarka	1998	100	100	Yes
Jish (Gush Halav)	1998	100	100	Yes
Dimona	1998	35	35	No
Daliyat Al-Karmel	1998	96	96	Yes
Golan (Regional Council)	1998	19	19	No
Upper Galilee (Regional Council)	1998	100	100	No
Mid-Arava Regional Council	1998	100	100	No
Hof Ashkelon (Regional Council)	1998	100	100	No
Hura	2004	0	0	No
Hurfeish	1998	100	100	Yes
Haifa (Schools in the Halisa and Wadi Nisnass neighborhoods)	1998	8	8	No
Hazor Hagelilit	1998	74	74	No
Tiberias (Schools in the Bet, Gimmel and Dalat neighborhoods)	1998	32	32	No
Tuba-Zangariyye	1998	100	100	Yes

Education Authority[1]	**Year in which the Order was Applied**	**Rate of Pupils in Long School Day by School Year** (Percentages)		**In Treatment Group**[2]
		1998/1999	1999/2000	
Tirat Karmel (Schools in the Rambam and Brenner neighborhoods)	1998	90	90	Yes
Tamra	1998	89	100	Yes
Yanuh-Jat	1998	100	100	Yes
Yeroham	1998	80	80	No
Jerusalem (Schools in the Katamon Het, Katamon Tel, Neve Ya'akov, Patt and Stern neighborhoods)	1998	5	5	No
Yirka	1998	100	100	Yes
Kabul	1998	100	100	No
Kuseifa	1998	100	100	Yes
Kisra Sumei	1998	100	100	Yes
Kafar Kanna	1998	88	0	No
Kafar Manda	1998	100	100	Yes
Kafar Kama	1998	100	100	Yes
Karmi'el	1998	7	7	No
Lev Hasharon (Regional Council)	1998	100	100	No
Lod (Schools in the Yad Abraham and Ramat Eshkol neighborhoods)	1998	95	100	Yes[3]
Laqye	2004	0	0	No
Mevo'ot Ha'hermon (Regional Council)	1998	100	100	No
Mughar	1998	100	100	Yes
Majdal Shams	1998	100	100	Yes
Migdal Haemeq (Schools in the Western neighborhood)	1998	60	60	No
Matah Asher (Regional Council)	1998	51	51	No
Metula	1998	100	0	Yes
Massada	1998	100	100	Yes
Mi'elya	1998	100	100	Yes
Ma'ale Adummim (Schools in the Klei Negina and Nahalim neighborhoods)	1998	93	100	Yes[3]
Ma'ale Efrayim	1998	0	100	Yes
Ma'ale Yosef (Regional Council)	1998	100	100	No
Ma'alot Tarshiha	1998	100	100	Yes
Mizpe Ramon	1998	100	100	No
Merom Hagalil (Regional Council)	1998	39	39	No
Merhavim (Regional Council)	1998	100	100	No
Messhed	1998	100	100	Yes
Nahariyya (Schools in the Trumpeldor neighborhood)	1998	0	0	Yes[3]
Nahef	1998	100	100	Yes
Nazerat Illit (Schools in the Het Quarter neighborhood)	1998	13	13	No
Netivot	1998	88	88	Yes
Sajur	1998	100	100	Yes
Sakhnin	1998	100	100	Yes
Ghajar	1998	0	0	Yes
Ilut	1998	100	100	Yes
Ein Qiniyye	1998	100	100	Yes

Education Authority[1]	**Year in which the Order was Applied**	**Rate of Pupils in Long School Day by School Year** (Percentages)		**In Treatment Group**[2]
		1998/1999	1999/2000	
Akko (Schools in the North, North Gimmel, North Dalet, Amidar, N. Alon, Wolfson, Kennedy, and Old City neighborhoods)	1998	10	10	No
Afula	1998	19	0	No
Ezyon (Regional Council)	1998	100	100	No
Ar'ara Banegev	2004	0	0	No
Atlit	1998	100	100	Yes
Fassuta	1998	100	100	Yes
Peqi'in	1998	100	100	Yes
Qedumim	1998	100	100	Yes
Qadima	1998	55	55	No
Qazrin	1998	0	0	No
Qiryat Arba	1998	90	100	Yes
Qiryat Gat (Schools in the Glikson and Ha'nevi'im neighborhoods)	1998	47	18	No
Qiryat Yam (Schools in the Bet, Gimmel and Dalet neighborhoods)	1998	29	46	No
Qiryat Mal'akhi (Schools in the Habad and Jabotinsky neighborhoods)	1998	100	100	Yes[3]
Qiryat Shemona	1998	0	100	Yes
Qarne Shomron	1998	70	95	Yes
Rosh Haayin (Schools in the Old area)	1998	50	41	No
Rahat	1998	100	100	Yes
Ramla	1998	92	92	Yes
Segev-Shalom	2004	0	55	No
Sederot	1998	100	100	Yes
Shelomi	1998	100	100	Yes
Sha'ab	1998	100	100	Yes
Sha'ar Hanegev (Regional Council)	1998	100	100	No
Shafir (Regional Council)	1998	100	100	No
Tel Aviv-Yafo (Schools in the Kiryat Shalom, Hatikva, Lev Yaffo and Ajami neighborhoods)	1998	22	22	No

Source: Long School Day and Enrichment Studies Order (Applying to Educational Institutions), 5758-1998; Long School Day and Enrichment Studies Order (Applying to Educational Institutions) (Amendment), 5765-2004; Long School Day and Enrichment Studies Order (Applying to Educational Institutions) (Amendment), 5770-2009; Ministry of Education ("Mabat Rahav" [broad view]) and the author's compilations.

1) The name of the educational authority as it appears in the Long School Day Order.
2) The treatment group was defined as communities in which at least 80 percent of primary school pupils participated in the long school day in the 2002/2003 school year.
3) Even though the long school day was meant to be implemented only in some of the neighborhoods in the community, in practice it included 80 percent and above of all the Hebrew education pupils.

Table A-2: Application of the Long School Day in Primary Schools[1], 1998/1999-2008/2009

School Year	Number of schools implementing the long school day								Rate of schools implementing the long school day as a percentage of all primary schools							
	Total	Jews			Non-Jews				Total	Jews			Non-Jews			
		Total	State	Other	Total	Arab	Bedouin	Druze		Total	State	Other	Total	Arab	Bedouin	Druze
1998/9	-	-	264	-	111	57	17	37	-	-	21.8	-	32.7	23.7	29.8	90.2
1999/2000	441	330	253	77	111	55	19	37	21.4	11.0	20.9	15.3	32.1	22.4	32.2	90.2
2000/1	467	354	274	80	113	52	22	39	21.9	11.0	22.4	14.9	30.5	20.2	31.4	92.9
2001/2	455	346	267	79	109	50	19	40	21.3	10.7	22.0	14.3	29.1	18.8	28.4	95.2
2002/3	459	342	263	79	117	53	24	40	21.3	11.1	21.7	14.1	30.2	19.3	34.3	90.9
2003/4	453	335	258	77	118	53	25	40	20.9	11.0	21.4	13.5	29.9	19.3	33.3	90.9
2004/5	469	349	257	92	120	54	23	43	21.6	12.0	21.5	16.2	29.3	19.0	28.4	97.7
2005/6	562	401	305	96	161	72	46	43	25.7	14.6	25.5	16.8	37.9	24.7	51.7	97.7
2006/7	498	386	280	106	112	51	30	31	25.3	13.0	26.1	17.6	38.0	23.6	62.5	100.0
2007/8	534	409	289	120	125	55	38	32	26.7	14.5	26.8	19.7	40.2	24.8	66.7	100.0

Source: Ministry of Education and author's compilations.

1) Regular primary schools (excluding special education schools and medical institutions. Data on long school day pupils is available for only for official education. Data on pupils is available only from the 1999/2000 school year.

Table A-3: Application of the Long School Day Among Primary School Pupils[1], 1998/1999-2008/2009

School Year	Number of Pupils								Rate as a percentage of all primary school pupils							
	Total	Jews			Non-Jews				Total	Jews			Non-Jews			
		Total	State	Other	Total	Arab	Bedouin	Druze		Total	State	Other	Total	Arab	Bedouin	Druze
1998/9	-	-	82,949	-	53,353	27,853	9,365	16,135	-	-	-	-	-	-	-	-
1999/2000	147,122	93,024	76,936	16,088	54,098	26,637	11,010	16,451	20.5	26.9	17.7	14.4	31.4	21.1	38.0	96.3
2000/1	154,546	99,178	82,267	16,911	55,368	25,840	12,320	17,208	21.2	28.1	19.0	14.4	30.6	19.8	36.9	98.5
2001/2	151,091	97,914	80,136	17,778	53,177	24,346	11,471	17,360	20.4	27.3	18.7	14.3	28.5	17.9	34.9	98.4
2002/3	152,529	96,440	78,277	18,163	56,089	25,046	13,527	17,516	20.4	27.5	18.5	13.9	28.8	17.7	37.9	98.0
2003/4	152,183	95,347	77,547	17,800	56,836	24,757	14,810	17,269	20.1	27.3	18.3	13.1	28.4	17.4	36.7	95.5
2004/5	157,027	100,166	76,549	23,617	56,861	24,916	14,148	17,797	20.5	27.9	18.1	16.7	28.1	17.3	35.5	99.4
2005/6	197,379	117,318	91,988	25,330	80,061	34,813	27,553	17,695	25.1	34.4	21.6	17.2	37.7	23.2	61.5	99.6
2006/7	168,218	112,572	84,630	27,942	55,646	25,780	16,475	13,391	24.7	31.3	22.2	17.9	38.5	23.6	74.3	100.0
2007/8	176,232	117,856	85,736	32,120	58,376	26,236	18,664	13,476	25.3	32.3	22.3	19.9	38.4	23.3	72.4	100.0

Source: Ministry of Education and author's compilations.

1) Regular primary schools (excluding special education schools and medical institutions). Data on long school day pupils is available only for official education. Data on pupils is available only from the 1999/2000 school year.

Table A-4: Number of observations[1] in labor force surveys, according to the criteria for their removal from the research population[2]

Survey year	Total observations	Observations of women	Women who are not mothers of children of the relevant age	Non-nuclear family	Above age 60 or below age 20	New immigrants up to 3 years in the country	Absorption centers, institutions, residents of East Jerusalem	Observations in small communities in 1995[3]	Observations in mixed sub-districts	Regular communities with a partial Long School Day Order	Communities implementing the long school day up to 80%	Observations not in the research	Observations in the research	Percentage in the research of the women observations	Observations in the treatment population
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1995	106,848	52,967	44,755	38,220	10,148	22,478	13,154	39,594	1,453	13,705	3,752	103,752	**3,096**	5.85	172
1996	107,850	53,370	45,069	38,361	3,288	22,977	13,249	39,856	1,757	12,918	3,693	104,498	**3,352**	6.28	280
1997	105,729	52,107	44,145	37,759	2,652	23,748	13,263	37,927	1,725	14,163	3,735	102,625	**3,104**	5.96	224
1998	110,130	54,573	46,212	39,234	3,862	24,250	14,104	38,724	2,018	11,857	5,669	106,811	**3,319**	6.08	385
1999	109,054	54,029	46,080	38,716	5,246	24,112	14,235	37,923	2,180	12,757	5,675	105,944	**3,110**	5.76	284
2000	108,382	53,803	45,937	38,700	3,684	24,311	14,084	37,491	2,377	13,091	5,665	105,328	**3,054**	5.68	331
2001	107,460	53,369	45,679	38,120	3,087	22,859	13,985	36,616	2,332	12,905	5,749	104,435	**3,025**	5.67	333
2002	106,579	52,974	45,516	37,794	2,764	22,547	13,885	36,131	2,999	11,341	5,964	103,680	**2,899**	5.47	309
2003	105,817	52,786	45,222	37,336	2,113	22,191	13,931	35,316	3,101	11,507	5,737	102,799	**3,018**	5.72	354
2004	105,909	52,865	45,341	37,218	1,562	21,899	14,083	35,280	3,365	11,642	5,493	102,883	**3,026**	5.72	363
2005	104,487	51,918	44,616	36,908	1,185	21,162	14,100	34,854	3,472	11,701	5,436	101,600	**2,887**	5.56	302

Source: Labor force surveys of the Central Bureau of Statistics and author's compilations.

1) The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics
2) There is an overlap between the number of observations removed in the various criteria, after removing all the men.
3) Communities that were not identified in the 1995 labor force survey, but were identified later.

Table A-5: Characteristics of the Treatment and Comparison Groups[1], 2003 (percentages)

	Total		Jews						Arabs					
			Total		Educated[2]		Uneducated		Total		Educated[2]		Uneducated	
	Trt.	Comp.	Trt.	Comp.	Trt.	Comp.	Trt.	Comp.	Trt.	Comp.	Trt.	Comp.	Trt.	Comp.
Distribution (observations)	282	2,331	171	1,980	37	906	134	1,074	111	351	14	71	97	280
Personal characteristics														
Rate (Of total treatment / comparison)	100	100	60.6	84.9	13.1	38.9	47.5	46.1	39.4	15.1	5.0	3.0	34.4	12.0
Average age (years)	41.9	42.3	42.8	42.7	42.7	43.4	42.9	42.1	40.5	39.9	34.7	40.1	41.3	39.9
Percentage married	89.4	87.9	86.0	86.5	81.1	87.3	87.3	85.8	94.6	96.3	100.0	93.0	93.8	97.1
Average number of children	2.63	2.21	2.35	2.08	2.49	2.11	2.31	2.05	3.07	2.91	2.93	2.70	3.09	2.97
Labor market characteristics														
Participation rate	58.2	73.8	81.3	82.1	83.8	89.7	80.6	75.6	22.5	27.1	74.6	74.6	13.4	15.0
Employment rate	51.1	67.8	70.8	75.2	78.4	85.5	68.7	66.5	20.7	25.9	78.6	73.2	12.4	13.9
Unemployment rate	7.1	6.0	10.5	6.9	5.4	4.2	11.9	9.1	1.8	1.1	7.1	1.4	1.0	1.1
Usual[3] weekly work hours	37.7	35.9	38.3	36.1	41.5	36.0	37.3	36.1	34.3	33.3	36.4	31.8	32.3	35.0

Source: Ministry of Education, labor force surveys of the Central Bureau of Statistics and author's compilations.

1) The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics
2) Twelve years or more of education.
3) For employees only.

Table A-6: List of Communities in the Comparison Group and Socioeconomic Cluster in 1998

Community	Socio-economic Cluster	Community	Socio-economic Cluster
Umm Al-Fahm	2	Modi'in-Makkabbim-Re'ut	8
Or Yehuda	5	Hebron Regional Council	3
Ashdod	4	Mateh Yehuda Regional Council	5
Baqa-Jatt	3	Nes Ziyyona	7
Judeide-Maker	2	Nazareth	3
Giv'at Shemu'el	8	Nesher	6
Giv'atayim	8	Netivot	3
Hod Hasharon	8	Netanya	5
Herzliyya	8	Ir Carmel	4
Hadera	5	Afula	5
Holon	7	Arrabe	2
Tayibe	3	Arad	5
Tire	4	Ar'ara	3
Yavne	6	Pardes Hanna-Karkur	6
Yehud	7	Petah Tiqwa	7
Yafia	3	Qalansawe	2
Rural settlements in the Zevulun sub-district	-	Qazrin	5
Rural settlements in the Hadera sub-district	-	Qiryat Ono	8
Rural settlements in the Holon sub-district	-	Qiryat Atta	5
Rural settlements in the Petah Tiqwa sub-district	-	Qiryat Bialik	7
Rural settlements in the Rehovot sub-district	-	Qiryat Tiv'on	8
Rural settlements in the Ramla sub-district	-	Qiryat Motzkin	7
Rural settlements in the Ramat Gan sub-district	-	Qiryat Shemona	5
Rural settlements in the Tel Aviv sub-district	-	Rishon Leziyyon	7
Kafar Kana	2	Rehovot	7
Kefar Sava	8	Reine	3
Kafar Qasem	3	Ramat Gan	8
Kafar Kara	4	Ramat Hasharon	9
Karmi'el	6	Ra'annana	8
Mevasseret Ziyyon	8	Shefar'am	3

Source: Ministry of Education, Central Bureau of Statistics (1999) and author's compilations.

Table A-7: Estimators of the effect of the long school day on mothers' labor supply[1]

	Participation		Employment		Weekly Work Hours	
	(1)	(2)	(3)	(4)	(5)	(6)
Long school day[2]	-0.030 (0.020)	-0.031 (0.020)	-0.032 (0.020)	-0.033 (0.020)	-2.744*** (0.886)	-2.788*** (0.885)
Age	0.032*** (0.007)	0.032*** (0.007)	0.038*** (0.008)	0.039*** (0.008)	0.418 (0.273)	0.427 (0.274)
Age squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.007** (0.003)	-0.007** (0.003)
Married	-0.010 (0.011)	-0.007 (0.011)	0.027** (0.012)	0.031*** (0.011)	0.395 (0.423)	0.497 (0.433)
Number of children aged 5-9	-0.054*** (0.007)	-0.054*** (0.007)	-0.055*** (0.007)	-0.055*** (0.007)	-1.832*** (0.195)	-1.828*** (0.194)
Number of children aged 10- 14	-0.032*** (0.006)	-0.032*** (0.006)	-0.035*** (0.006)	-0.035*** (0.006)	-1.365*** (0.179)	-1.361*** (0.179)
Number of children aged 15-17	-0.016*** (0.005)	-0.016*** (0.005)	-0.017*** (0.006)	-0.017*** (0.006)	-0.740*** (0.201)	-0.732*** (0.199)
Jewish	0.445*** (0.035)	0.444*** (0.035)	0.393*** (0.031)	0.392*** (0.031)	5.076*** (1.713)	5.072*** (1.726)
Years of education	0.030*** (0.002)	0.030*** (0.002)	0.034*** (0.001)	0.034*** (0.001)	0.242*** (0.057)	0.249*** (0.056)
Income not from work[3]	-	-0.000*** (0.000)	-	-0.000*** (0.000)	-	-0.000** (0.000)
Constant	-0.479*** (0.137)	-0.491*** (0.137)	-0.705*** (0.146)	-0.716*** (0.146)	25.074*** (5.297)	24.635*** (5.324)
Trend[4]	√	√	√	√	√	√
Permanent effects on the community	√	√	√	√	√	√
Number of observations	32,785	32,785	32,785	32,785	19,733	19,733
Number of communities	71	71	71	71	71	71
Adjusted R^2	0.295	0.295	0.246	0.247	0.028	0.029

1) The dependent variables of the woman's participation in the labor force and employment are binary variables. The weekly work hours are the usual hours (for working women only). The standard errors corrected for correlation at the community level are indicated in parentheses. The asterisks (*, **, ***) indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively. The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.
2) The long school day was defined as a dummy variable that obtains the value 1 in the case of implementation of the long school day for 80 percent and above of the primary school pupils in the community (according to nationality), and the value 0 where the long school day is not implemented at all in the community.
3) Income not from work was defined as the total household gross income less the respondent's income from work, and is reported at the fourth sampling stage for each respondent.
4) Year-and-a-quarter.

Table A-8: Estimators of the effect of the long school day on the labor supply of mothers with children aged 5-9— comparison communities in the five-and-below[1] socioeconomic cluster

	Participation		Employment		Weekly Work Hours	
	(1)	(2)	(3)	(4)	(5)	(6)
Long school day	-0.028 (0.035)	-0.028 (0.036)	-0.038 (0.028)	-0.033 (0.029)	-2.238 (1.358)	-2.320* (1.343)
Age	0.039** (0.014)	0.038** (0.014)	0.049*** (0.015)	0.049*** (0.015)	0.466 (0.632)	0.348 (0.660)
Age squared	-0.001** (0.000)	-0.001** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.007 (0.009)	-0.006 (0.009)
Married	0.031 (0.026)	0.035 (0.027)	0.076** (0.031)	0.084** (0.032)	3.144*** (1.052)	3.137** (1.167)
Number of children aged 5-9	-0.065*** (0.013)	-0.073*** (0.012)	-0.053*** (0.013)	-0.059*** (0.013)	-1.427** (0.625)	-1.262* (0.633)
Number of children aged 10-14	-0.036*** (0.012)	-0.036*** (0.012)	-0.039*** (0.012)	-0.038*** (0.013)	-1.842*** (0.255)	-1.764*** (0.285)
Number of children aged 15-17	-0.021 (0.013)	-0.017 (0.013)	-0.029* (0.014)	-0.026* (0.014)	-0.566 (0.538)	-0.495 (0.580)
Jewish	0.325*** (0.025)	0.326*** (0.025)	0.322*** (0.031)	0.330*** (0.025)	8.388* (4.799)	7.824* (4.296)
Years of education	0.040*** (0.004)	0.040*** (0.004)	0.042*** (0.004)	0.042*** (0.004)	0.191 (0.148)	0.186 (0.154)
Income not from work	-	0.000 (0.000)	-	0.000 (0.000)	-	0.000 (0.000)
Constant	-0.654** (0.266)	-0.630** (0.264)	-0.995*** (0.287)	-1.011*** (0.282)	20.538* (11.663)	23.171* (11.713)
Trend	√	√	√	√	√	√
Permanent effects on the community	√	√	√	√	√	√
Number of observations	7,243	7,243	7,243	7,243	3,260	3,260
Number of communities	41	41	41	41	41	41
Adjusted R^2	0.394	0.392	0.332	0.328	0.066	0.065

1) The dependent variables and the control variables were defined in a similar manner to Table 1.
The standard errors corrected for correlation at the community level are indicated in parentheses. The asterisks (*, **, ***) indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively. The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.

Table A-9: Estimators of the effect of the long school day on change in mothers' labor supply, according to the duration of the long school day in the community[1]

	Participation Rate		Employment Rate		Weekly Work Hours	
Controlling for:	Background variables and trend only	Background variables, trend and permanent effects on the community	Background variables and trend only	Background variables, trend and permanent effects on the community	Background variables and trend only	Background variables, trend and permanent effects on the community
Implementation of long school day[2]	(1)	(2)	(3)	(4)	(5)	(6)
First year	-0.066*** (0.022)	-0.083*** (0.026)	-0.039 (0.024)	-0.050* (0.027)	-2.877*** (0.993)	-3.860*** (1.213)
Second year	-0.057** (0.022)	-0.072*** (0.025)	-0.065*** (0.024)	-0.075*** (0.026)	-2.089** (1.056)	-3.177** (1.585)
Third year	-0.004 (0.021)	-0.016 (0.025)	0.010 (0.023)	0.006 (0.030)	-2.771*** (0.932)	-3.643*** (1.092)
Fourth year	0.002 (0.023)	-0.007 (0.023)	-0.005 (0.025)	-0.008 (0.028)	-0.771 (0.968)	-1.852 (1.629)
Fifth year	0.046** (0.021)	0.035 (0.029)	0.013 (0.023)	0.007 (0.037)	-2.297** (0.951)	-3.312*** (1.195)
Sixth year	-0.003 (0.021)	-0.021 (0.033)	-0.020 (0.023)	-0.034 (0.031)	0.866 (0.934)	-0.068 (1.167)
Seventh year	-0.032 (0.023)	-0.041 (0.042)	-0.064** (0.025)	-0.072** (0.035)	-2.046* (1.127)	-3.530*** (1.174)
Controlling for trend	√	√	√	√	√	√
Permanent effects on the community	X	√	X	√	X	√
Number of observations	32,785	32,785	32,785	32,785	19,733	19,733
Number of communities		71		71		71
Adjusted R^2	0.291	0.295	0.242	0.247	0.021	0.029

1) The dependent variables and the control variables were defined in a similar manner to Table 1, without controlling for income not from work.
The standard errors corrected for correlation at the community level are indicated in parentheses. The asterisks (*, **, ***) indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively. The estimations include also women in the comparison group living in communities in a socioeconomic cluster higher than 5. The observations are not weighted according to the weighting coefficients of the Central Bureau of Statistics.

2) The explanatory variable of the long school day was split into seven dummy variables indicating the implementation of the long school day (80 percent and more of the primary school pupils in the community participate in the long school day [within the educational stream]) according to the number of years it is implemented in the community—from the first year (usually the 1999 school year) to the seventh.

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