

Policy Program  
Paper

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Funding of Weekly Teaching Hours  
in Primary School Education and Its  
Effect on Affirmative Action in  
Jewish State Education**

Nachum Blass, Noam Zussman and Shay Tsur

**Policy Paper No. 2016.01**

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*Jerusalem, March 2016*



The Taub Center was established in 1982 under the leadership and vision of Herbert M. Singer, Henry Taub, and the American Jewish Joint Distribution Committee. The Center is funded by a permanent endowment created by the Henry and Marilyn Taub Foundation, the Herbert M. and Nell Singer Foundation, Jane and John Colman, the Kolker-Saxon-Hallock Family Foundation, the Milton A. and Roslyn Z. Wolf Family Foundation, and the American Jewish Joint Distribution Committee.

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Translation: Shoshana London-Sappir  
Editing and lay-out: Laura Schreiber

Center address: 15 Ha'ari Street, Jerusalem  
Telephone: 02 5671818 Fax: 02 5671919  
Email: [info@taubcenter.org.il](mailto:info@taubcenter.org.il) Website: [www.taubcenter.org.il](http://www.taubcenter.org.il)

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# Municipal Involvement in the Funding of Weekly Teaching Hours in Primary School Education and Its Effect on Affirmative Action in Jewish State Education

Nachum Blass, Noam Zussman and Shay Tsur\*

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## *Abstract*

*This paper examines the extent of municipal involvement in the funding of teaching hours in the Jewish state primary schools, and the affirmative action policy steps taken within municipalities. Between 2001 and 2009, the municipality's financial share of teaching hours in the Jewish state primary schools was about 2 weekly hours per class, which is less than 4 percent of total hours and close to one-third of the hours funded by sources other than the Ministry of Education. The Ministry of Education and municipalities fund affirmative action teaching hours for pupils from low socioeconomic backgrounds. This municipal funding has reduced the extent of affirmative action provided by the Ministry of Education by 5 percent from 32 percent to about 27 percent. The reason is that municipalities that are stronger in terms of their socioeconomic characteristics allocated greater resources to primary schools than weaker municipalities did, even though stronger municipalities adopted affirmative action policies in favor of pupils from weaker backgrounds. There is a positive correlation between a municipality's fiscal state and its investment in Jewish*

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\* Nachum Blass, Taub Center for Social Policy Studies in Israel, [nachum03@gmail.com](mailto:nachum03@gmail.com). Noam Zussman, Research Department, Bank of Israel, [noam.zussman@boi.org.il](mailto:noam.zussman@boi.org.il); Shay Tsur, Macroeconomics and Policy Unit, Bank of Israel, [shay.tsur@boi.org.il](mailto:shay.tsur@boi.org.il). Thanks to Adi Brender, Edith Sand and participants in the Research Department of the Bank of Israel for their helpful comments. The opinions expressed in this study do not necessarily reflect those of the Bank of Israel or the Taub Center.

*state primary education when other variables are held constant: every increase of 1 percent in the average revenue from residents correlates with an increase of 1.2 percent in educational investment (elasticity of 1.2) and the elasticity relative to the level of debt per resident (in absolute terms) is -0.4. Municipal affirmative action is positively correlated with the municipality's socioeconomic ranking and its fiscal state.*

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## *Introduction*

In the last decades, there has been an increase in the involvement of non-governmental agencies in the funding and provision of services to the citizens of Israel, including in the area of education. Furthermore, social, political and economic processes have increased competition between municipalities over the composition and quality of the basket of services they provide their residents, especially with the intention of attracting strong populations; here, too, some of the competition focused on education services (Blank, 2004). At the same time, households increased their direct participation in the funding of their children's education (Central Bureau of Statistics, 2013a; 2013b).

The burden of funding education is, therefore, divided between central government, local government, households, and additional players – a development that has been the subject of lively public debate both in Israel and as a global development. The debate has a number of aspects, including inequality in education. This paper focuses on the inequality that results from municipal involvement in the funding of education.

It is a common assumption that the municipalities' fiscal state and priorities are reflected among other things in the level of resources they provide to the education system. Since the socioeconomic profile of residents of the same municipality is homogenous relative to the nationwide population, and they operate in the service of their residents, fiscally strong municipalities are likely to allocate more resources to their education systems than weaker municipalities, thereby increasing inequality in education. This happens despite the fact that the central government would like to reduce gaps between populations and geographic areas, and towards this goal pursues policies of affirmative action in budgeting education in favor of pupils from weak backgrounds and from the periphery, thus attempting to reduce inequality between municipalities (see Klinov, 2010 [Appendix 2]; GAO, 1998; Zhang, Mizunoya, You, and Tsang, 2011; Department of Education, 2011a, 2011b).

In Israel, very few studies have been published about the municipalities' expenditure on education and its development over time. The exceptions are Lavie, Tirosh and Gronau (2003), Ben-Bassat and Dahan (2009) and Pollack (2012). These researchers find as expected that socioeconomically strong municipalities spend much higher amounts from their own budgets on each pupil in school (at all levels of education

together) than weak municipalities. In 2006, for example, the stronger municipalities underwrote about one-third of the total expenditure per pupil while the weaker ones underwrote one-tenth, so that the total spending per pupil as a result of the funding by the former municipalities was more than double that of the latter ones. These studies relied on the financial reports the municipalities submit to the Interior Ministry, even though the Central Bureau of Statistics and the Ministry of Interior (2009) say explicitly that they do not recommend using that data to calculate the per pupil expenditure on education. Nevertheless, the findings of these studies resonated with the public and are now reflected in public opinion where the impression is that the extent of resources the strong municipalities allocate to the education system virtually serve to reverse the Ministry of Education's policy of affirmative action.<sup>1</sup> This paper will demonstrate that that is not the case.

This study addresses four issues:

- A description of the independent resources the municipalities allocate to funding the work hours of teaching personnel.<sup>2</sup> The description focuses on the state official primary schools (which is to say, excluding ultra-Orthodox and special education) in Jewish state education, in the 2000-2001 and 2008-2009 school years.
- An analysis of the affirmative action policy in the municipalities: do the municipalities allocate to primary schools serving pupils from weaker socioeconomic backgrounds more teaching hours per class than they do to the schools serving stronger populations in their district?
- To what extent does the involvement of the municipalities in the funding of teaching hours expand or reduce the central government's affirmative action in allocating resources to primary schools between and within municipalities?
- What is the relationship between the non-municipality financial resources and the municipality's fiscal state, and the extent of independent funding and affirmative action within the municipalities?

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<sup>1</sup> See for instance Swirski and Dagan-Buzaglo (2009), Arlosoroff (2012).

<sup>2</sup> Not including auxiliary services (secretaries, janitors and so on).

The research is based on the wealth of data collected as part of the Ministry of Education's audit of the use of working hours. The audit is performed for the ministry almost every year, to examine what portion of the teaching personnel's work hours (in terms of hours, not cost)<sup>3</sup> is funded by the Ministry of Education, the municipalities, NGOs, parents, and others, and whether these hours are utilized in accordance with the rules. The audit is based on a sample that includes about one-fifth of the Jewish state primary and lower secondary schools. The sampling layers are district, educational stream and the schools' socioeconomic ranking (for more on this subject see Blass et al., 2010). An examination (Blass et al., 2010) found that the sample in the audit is a representative sample of official schools. We would like to emphasize that the audit of work hours is the only audit that provides comprehensive information about the involvement of municipalities, NGOs and parents in the funding of teaching hours; currently, there are no administrative data sources about this area. The audit does not include information about funding of auxiliary services, extracurricular activities, acquisitions, construction, and so on.<sup>4</sup>

The analysis focuses on the funding of teaching personnel only because of data limitations. However, teaching hours are the very heart of education and salary expenses are the major part of the expenditure on education. The analysis refers only to schools in Jewish state education because the audit includes very few schools from the other educational streams (especially after the sample is further divided by socioeconomic ranking or when the focus is within municipalities); furthermore, the Arab municipalities are poor and, therefore, their funding of teaching staff's work hours is very limited if at all.<sup>5</sup>

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<sup>3</sup> The differences between schools in teaching hours cost in official Jewish state primary education are small (the authors' calculations for the 2012-2013 school year – the only year for which data is available – from the following data source: Ministry of Education, Administration of Economics and Budget, Budget Transparency in the Education System, <http://ic.education.gov.il/shkifut/startprod.htm>). This is a result of the fact that there are no major differences between schools in the observable personal profiles of the teachers, which determine their salaries. See also FN 10.

<sup>4</sup> These are addressed, for instance in the Central Bureau of Statistics (2001).

<sup>5</sup> The Israeli primary education system is divided by different characteristics: by sector – Jewish, Arab, Bedouin and Druze; by type of supervision – state, state-religious and Haredi; by legal status – official, recognized and exempt; and by type of education – regular and special. For elaboration see Blass et al. (2010).

This paper constitutes a follow-up to a previous study that focused mainly on the funding allocated to the work hours of teaching personnel in primary schools in the years 2001-2009 by the Ministry of Education (Blass et al., 2010). That study found that the Ministry funded an average of 88 percent of the total teaching hours in the regular Jewish state schools, and the level of affirmative action the Ministry pursued was substantial. The number of classroom hours given to schools whose pupils came from weak backgrounds (the lower third of the Deprivation Index) was 30 percent higher than the number given to schools whose pupil population came from strong backgrounds (the upper third of the index).

Among the main conclusions of the present study are the following findings: In the years 2001-2009, the municipalities funded about two weekly hours per class in official Jewish primary education, which constitutes less than 4 percent of the total hours and about one-third of the hours funded by sources other than the Ministry of Education. The municipality funding reduced from 32 percent to 27 percent the extent of the affirmative action the Ministry of Education pursued in the allocation of hours in favor of pupils from weak socioeconomic backgrounds compared to strong ones. This is because strong municipalities allocated more resources to the primary schools than did the weaker ones. Thus even though stronger municipalities implement a policy of affirmative action in their own schools, the additional weekly classroom hours that they allocate to their pupils from strong socioeconomic backgrounds serves to diminish the impact of the national affirmative policy.

Estimates indicate a strong positive correlation between the municipality's socioeconomic ranking and fiscal state and the funding of teaching hours by the municipality. The elasticity<sup>6</sup> of the teaching hours funded by the municipality relative to its average revenue per resident (from all sources) was 1.2 (for every NIS 1,000 of the municipality's revenue per resident along with an average of growth of 0.4 hours per class), and elasticity relative to debt per resident (in absolute terms) reached -0.4; Affirmative action within the municipality is positively correlated with its socioeconomic ranking and fiscal state.

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<sup>6</sup> Elasticity is the size of the change in percentages of a single variable relative to a 1 percent change in another variable. In this case, we are talking about the change in teaching hours relative to the change in average revenue per resident or debt per resident.



The rest of the paper is devoted to descriptive statistics (Section 1) and a description of the results of the estimates (Section 2).

## *1. Descriptive Statistics*

The number of weekly work hours by teaching personnel funded by the municipalities in 2001-2009 was an average of an hour and a half per class in the Jewish state primary schools. This number constituted 2.5 percent of the total hours and 25 percent of the hours from sources other than the Ministry of Education (see also Klinov 2010; Bank of Israel, 2011). During that period the municipalities funded an average of 6 percent of the current national expenditure for primary education (without amortization)<sup>7</sup> and that expenditure in 2008 was NIS 1.2 billion in current prices (Central Bureau of Statistics, 2013a and 2013b).

The municipalities in Jewish education, and the municipalities in the relatively high socioeconomic clusters, funded more teaching hours than the municipalities in Arab education and municipalities in low clusters, many of which are Arab (see Table 1 and Figure 1). In Jewish state education, the municipalities funded 2 hours per class, and that number constitutes 3.6 percent of the total hours and 32 percent of the hours not provided by the Ministry of Education.

The economically strong municipalities allocated more hours to schools in their districts than did the municipalities from low or middle background. The gap was 1.7 hours (1.4 in Jewish state education alone – see Tables 1 and 2). As a result, the extent of affirmative action in terms of hour allocation by the Ministry of Education in favor of schools whose pupils come from weak backgrounds decreased from 27 percent (32 percent in Jewish state education) to 20 percent (27 percent). The funding by the municipalities is of a regressive nature because there is a positive correlation between their residents' socioeconomic background, their fiscal state, and the extent of resources they allocate to the education system (see Section 3).

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<sup>7</sup> In this calculation, the municipalities' expenses include among other things the wages of the auxiliary staff and employees in the education administration, acquisitions and so on. Again, these items do not constitute part of the work hours of the teaching force which is the subject of this study.

Table 1. **Teaching force work hours in primary schools\* by source of funding, pupil socioeconomic background,\*\* and educational stream**

weekly class hours, average for 2001-2009\*\*\*

Funding source	Socioeconomic background		
	Low	Middle	High
<b>Jewish state</b>			
Municipalities	0.9	1.9	2.4
NGOs	4.5	3.8	2.0
Parents	0.0	0.5	1.9
Ministry of Education	56.2	48.7	42.5
Total	61.6	54.7	48.8
<b>Jewish state-religious</b>			
Municipalities	1.4	2.1	2.9
NGOs	4.3	4.0	2.9
Parents	0.1	1.1	1.9
Ministry of Education	72.2	60.1	49.9
Total	78.0	67.4	57.7
<b>All Jewish education</b>			
Municipalities	1.1	2.0	2.4
NGOs	4.4	3.8	2.2
Parents	0.0	0.7	1.9
Ministry of Education	62.9	52.4	43.5
Total	68.5	59.0	50.0
<b>Arab education (including Druze and Circassian)</b>			
Municipalities	0.5	0.5	--
NGOs	1.8	1.0	--
Parents	0.0	0.0	--
Ministry of Education	46.7	46.9	--
Total	48.9	48.4	--
<b>Bedouin education</b>			
Municipalities	0.2	0.2	--
NGOs	0.9	0.0	--
Parents	0.0	0.0	--
Ministry of Education	48.3	46.2	--
Total	49.3	46.2	--
<b>All Arab education</b>			
Municipalities	0.4	0.5	--
NGOs	1.5	1.0	--
Parents	0.0	0.0	--
Ministry of Education	47.2	46.8	--
Total	49.1	48.3	--
<b>Total</b>			
Municipalities	0.7	1.7	2.4
NGOs	2.9	3.3	2.2
Parents	0.0	0.6	1.9
Ministry of Education	54.7	51.4	43.5
Total	58.4	57.1	50.0

\* Regular official primary schools with grades 1 to only

\*\* Low background – Deprivation Index deciles 8-10; middle – deciles 4-7; high – deciles 1-3.

\*\*\* These figures differ slightly from those taken from Blass et al. (2010, Appendix Table 4) since they are not inflated by the composition of classes in the overall population. In comparison to Blass et al, it is apparent that there are no real differences in the results of the two studies. Due to the different weights of the school populations in the different streams, the total is not the same as the two hours allocated to each of the separate systems.

Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd

Table 2. **A comparison of teaching hours allocation to Jewish primary schools,\* by funding source and pupils' socioeconomic background\*\***

weekly hours per class, average 2001-2009

<b>Funding source</b>	<b>Difference between low and high background</b>	<b>Difference between low and middle background</b>	<b>Difference between middle and high background</b>
Municipalities	-1.4	-1.0	-0.4
NGOs	2.5	0.7	1.7
Parents	-1.9	-0.5	-1.3
Ministry of Education	13.7	7.7	6.0
<b>Total</b>	<b>12.8</b>	<b>6.9</b>	<b>5.9</b>

\* Regular official primary schools with grades 1-6 only

\*\* Low background – Deprivation Index deciles 8-10; middle background – Deprivation Index deciles 4-7; high background – Deprivation Index deciles 1-3.

Source: Blass, Zussman, Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd

Tables 3 and 4 and Figure 2 focus on schools in primary Jewish state education in the years 2001-2009, and show the allocation of teaching hours per class by source of funding and the municipality's and school's socioeconomic background.<sup>8</sup> Table 3 shows clearly that affluent municipalities budget at their expense more hours than medium-ranked municipalities.<sup>9</sup> This phenomenon is also evident when the comparison is between schools from the same socioeconomic background in strong versus other municipalities. A similar picture emerges relative to the municipalities' share in the total resources: 10 percent in the strong municipalities and 2 percent in the weak ones (Table 4).

Table 3. **Teachers' working hours in Jewish state primary schools,\* by funding source and socioeconomic cluster of the municipality\*\* and the schools' pupils\*\*\***  
weekly hours per class, average for 2001-2009

Funding source	Municipality socioeconomic cluster				
	Middle			High	
Pupil background	Low	Middle	High	Middle	High
Municipalities	0.9	1.5	1.0	7.9	4.4
NGOs	4.5	3.9	2.5	3.3	1.8
Parents	0.0	0.5	1.8	1.1	2.1
Ministry of Education	56.2	48.4	42.7	50.4	42.4
<b>Total</b>	<b>61.6</b>	<b>54.3</b>	<b>48.0</b>	<b>62.7</b>	<b>50.6</b>

\* Regular official primary schools with grades 1-6 only. \*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. In low socioeconomic clusters there are very few Jewish state schools. \*\*\* Low background – Deprivation Index deciles 8-10; middle – deciles 4-7; high – deciles 1-3.

Source: Blass, Zussman and Tsur, Taub Center. Data: Eida – Economic Management and Advice, Ltd

<sup>8</sup> The focus on schools in Jewish state education was undertaken for the following reasons: A) Within a particular municipality there are few schools from the other educational streams, which makes it difficult to examine the municipality's affirmative action within the same stream; B) Most of the Arab municipalities and schools have low socioeconomic rankings, and none of them are in high socioeconomic clusters, so it is impossible to examine the affirmative action policy between and within Arab municipalities. Appendix Table 1A shows how many schools in Jewish state education were sampled in the audit of the municipalities during the period under study, and the municipalities' socioeconomic ranking.

<sup>9</sup> The audit includes few Jewish state schools in weak municipalities and, therefore, such schools were omitted from the analysis.

Table 4. **Distribution of teachers' working hours per class in Jewish state primary schools,\* by funding source and the socioeconomic cluster of the municipality\*\* and the schools' pupils\*\*\***  
average for 2001-2009, in percents

Funding source	Municipality socioeconomic cluster				
	Middle			High	
Pupil background	Low	Middle	High	Middle	High
Municipalities	1.5	2.8	2.0	12.6	8.6
NGOs	7.3	7.1	5.2	5.3	3.5
Parents	0.0	0.9	3.8	1.8	4.1
Ministry of Education	91.2	89.2	88.9	80.3	83.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

\* Regular official primary schools with grades 1-6 only.

\*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. In low socioeconomic clusters there are very few Jewish state schools.

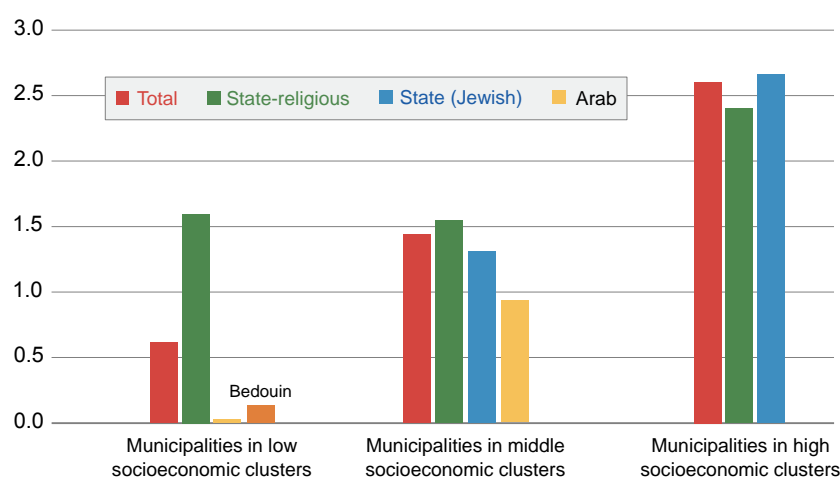
\*\*\* Low background – Deprivation Index deciles 8-10; middle – deciles 4-7; high – deciles 1-3.

Source: Blass, Zussman and Tsur, Taub Center.

Data: Eida – Economic Management and Advice, Ltd

Figure 1

**Primary school teachers' working hours funded by municipalities,\* by education stream and municipality socioeconomic cluster\*\***  
teachers' weekly working hours per class, average for 2001-2009



\* Official schools with grades 1-6 only

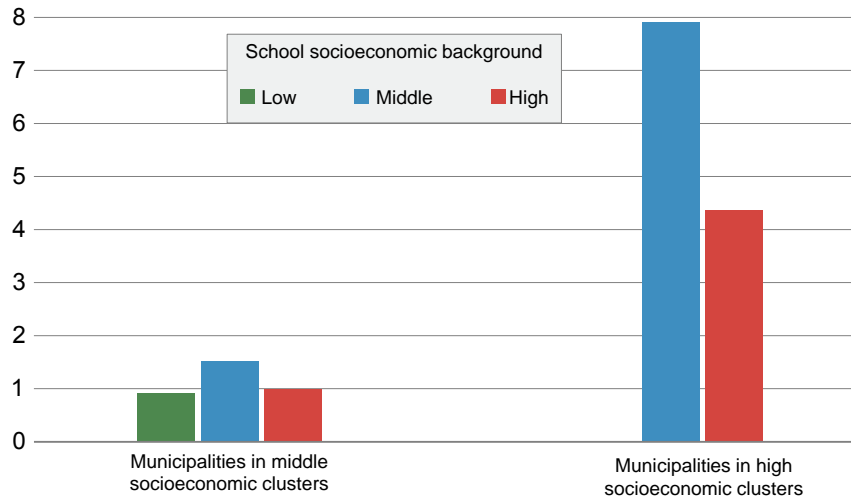
\*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. In some of the other educational streams, only a few schools in certain clusters were included in the audit of working hours allocated to schools, and so the number of hours is not shown for these cases.

Source: Bank of Israel (2011)

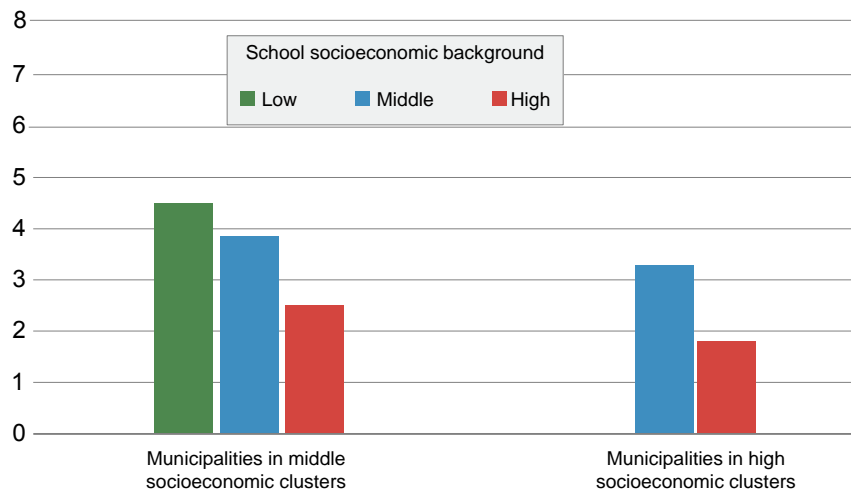
Figure 2  
**Teacher's working hours in Jewish state primary schools,  
 by funding source and the socioeconomic cluster of the municipality\*\*  
 and the school's pupils\*\*\***

teachers' weekly working hours per class, average for 2001-2009

A. Municipality funding



B. NGO funding



\* Official schools with grades 1-6 only

\*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. In some of the other educational streams, only a few schools in certain clusters were included in the audit of working hours allocated to schools, and so the number of hours is not shown for these cases.

\*\*\* Low- Deprivation Index deciles 8-10; middle – Deprivation Index deciles 4-7; high – Deprivation Index deciles 1-3.

Source: Blass, Zussman and Tsur, Taub Center

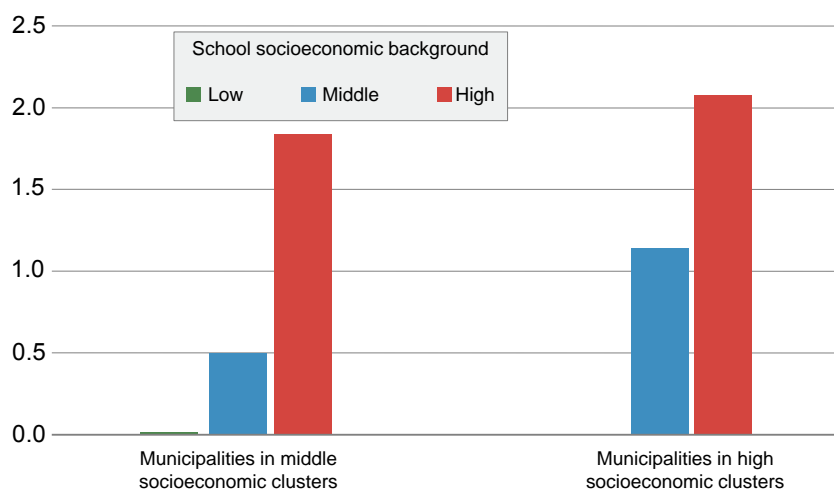
Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics, 2009

Figure 2 (continued)

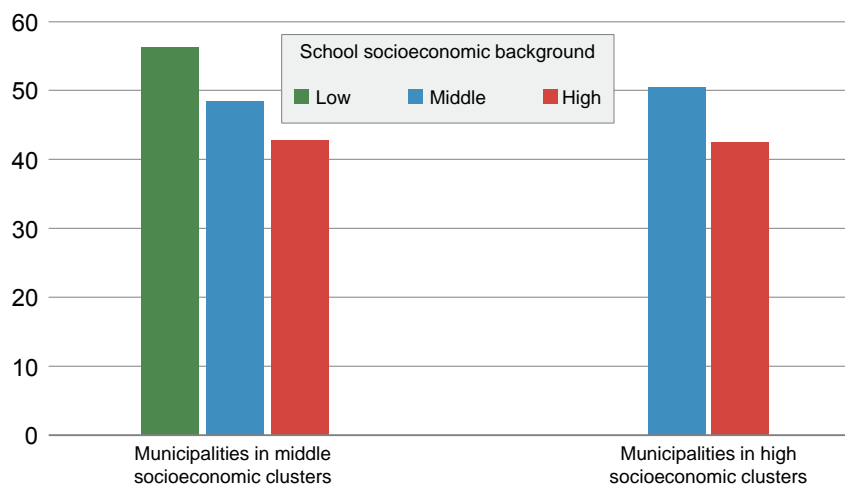
**Teacher's working hours in Jewish state primary schools,  
by funding source and the socioeconomic cluster of the municipality\*\*  
and the school's pupils\*\*\***

teachers' weekly working hours per class, average for 2001-2009

C. Parental funding



D. Ministry of Education funding



\* Official schools with grades 1-6 only

\*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. In some of the other educational streams, only a few schools in certain clusters were included in the audit of working hours allocated to schools, and so the number of hours is not shown for these cases.

\*\*\* Low- Deprivation Index deciles 8-10; middle – Deprivation Index deciles 4-7; high – Deprivation Index deciles 1-3.

Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics, 2009

Stronger municipalities pursue policies of affirmative action within their boundaries, and schools whose pupils come from a medium socioeconomic background receive more funding than schools where the pupils come from a strong background. Medium-ranked municipalities do not pursue clear policies of affirmative action, and in any case they fund only a relatively limited number of hours. In absolute terms, the affirmative action by the municipalities is less than that pursued by the Ministry of Education. By way of illustration, in a school whose pupils come from a medium background in a strong municipality, an extra 4 weekly hours is allocated relative to the allocation to a school whose pupils come from a strong background, whereas the Ministry of Education allocates an extra 8 hours. While in medium-ranked municipalities it is impossible to point to a clear affirmative action policy, in the Ministry of Education it is significant. In relative terms (which is to say, relative to the total hours they allocate), the municipalities pursue a higher level of affirmative action.

All told, the municipalities reduced the extent of their affirmative action in allocating resources for education (see Table 2), because the strong municipalities provided the Jewish primary state schools in their districts with more resources than the weak municipalities, and because within the strong municipalities there is only a limited amount of affirmative action.<sup>10</sup>

In order to measure the inequality in teaching hours in official Jewish state primary education funded by the municipalities,<sup>11</sup> we used the Gini index, whose values range from 0 (a hypothetical situation of full equality, where all classes receive the same number of hours) to 1 (absolute inequality, with one class receiving all of the hours and the others none). The index was found to be 0.744. That is a high Gini index, but it only indicates that the breakdown of hours per class funded by the

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<sup>10</sup> Previous studies (Central Bureau of Statistics, 2008; Blass et al., 2008; Blass and Romanov, 2010) show that there are no real differences in education and teaching tenure between teachers who teach in primary schools (including in Jewish state education), when you look at the schools by their pupils' socioeconomic backgrounds (according to the Deprivation Index). This finding might indicate that teachers in the different municipalities, regardless of their socioeconomic cluster, have similar observable personal characteristics.

<sup>11</sup> Measurements were made only in municipalities with at least four different Jewish primary state schools in the years 2001-2009, because the goal was also to examine the degree of affirmative action within a given municipality.



municipalities is not uniform and cannot indicate the progressiveness of the allocation.

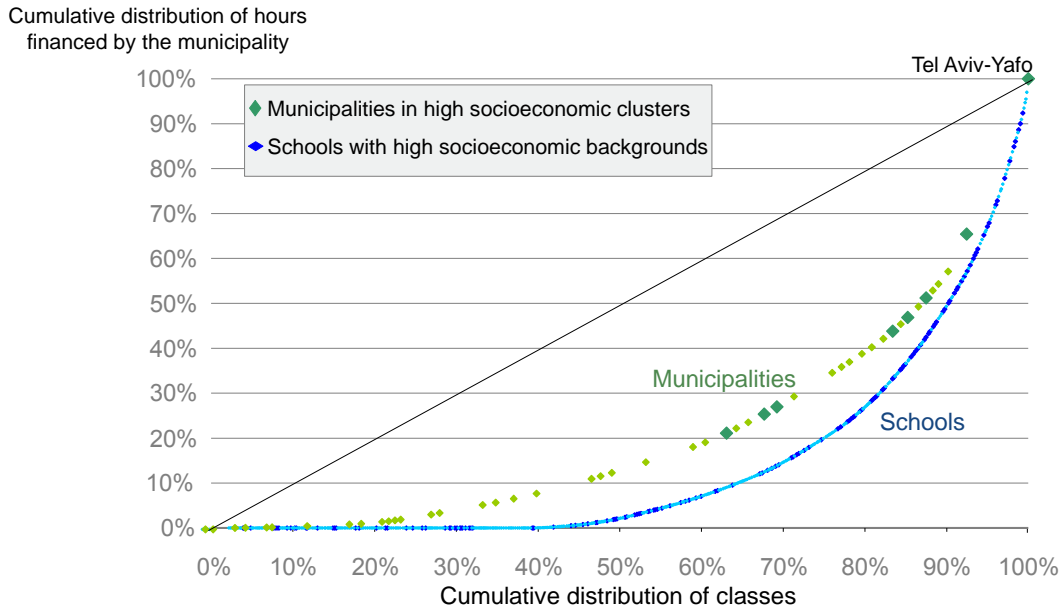
In the next stage the Gini index of inequality was deconstructed into two parts: inequality between schools from different municipalities and inequality between schools in the same municipality (see Lerman and Yitzhaki, 1984; Fogel, 2011). The conclusion is that 95 percent of the inequality comes from inequality between the municipalities – an indication of the regressive contribution of the municipalities, because the strong municipalities allocate many more teaching hours. On the other hand, there are relatively small differences in allocations to different schools within the municipalities.

Figure 3 shows the Lorenz curve (a function of cumulative distribution) of municipality involvement in funding teaching hours.<sup>12</sup> The diagonal (the black line) represents absolute equality, which is to say a hypothetical situation where the number of hours allocated per class is equal between all classes in the country (including within a given municipality). The Gini index equals the ratio between the area enclosed between the diagonal and the curve and the whole area under the diagonal: the larger the area of the former, the greater the inequality in allocating hours. The figure shows that when you move from the curve presenting the average funding of hours per class in a municipality to the curve that shows the average funding per class in a school (regardless of the municipality to which the school belongs), the trapped area grows somewhat because most of the total inequality arises from the inequality between municipalities – a result that was obtained also by the aforesaid deconstruction of the Gini index.

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<sup>12</sup> The Lorenz curve was constructed as follows: schools (or municipalities) were ranked in a rising order by the average number of hours the municipality funded per class in the school (or in the municipality). The X axis shows the cumulative number of classes in the schools (in the municipality), which is to say, 100% is the total classes, and the Y axis shows the cumulative number of hours funded by the municipalities. On the school curve, every point represents a school, and on the municipality curve every point is a municipality.

Figure 3  
**Lorenz curve: teacher's working hours funded  
 by the municipalities\* in state primary education,\*\*  
 by school and municipality**  
 2001-2009



\* Municipalities where there were at least four state primary schools between 2001 and 2009

\*\* Official schools with grades 1-6 only

\*\*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. High socioeconomic background – Deprivation Index deciles 1-3.

Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics, 2009

The municipality curve also indicates that those ranked in high socioeconomic clusters (marked by a dark green rhombus) are typically located on the right part of the curve. Which is to say, they fund many hours per class; Tel Aviv serves as a good example of this phenomenon. Likewise, the school curve shows that the strongest ones (marked by a dark blue rhombus) are mostly located on the right part of the curve, because more affluent municipalities, in which strong schools are

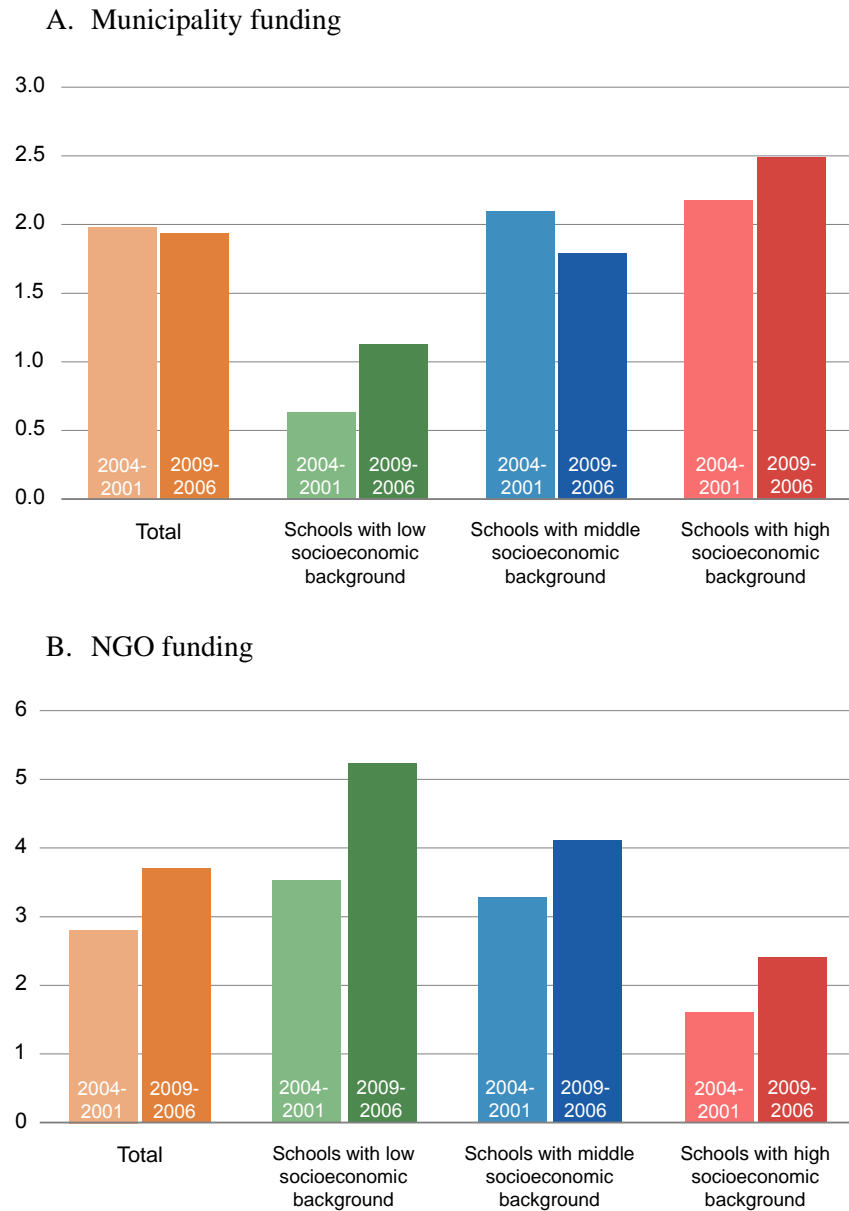
relatively common, fund on the average a higher share of primary education than do weak municipalities. However, the share of strong schools located on the right part of the Lorenz curve of schools is lower than the share of the municipalities from a high socioeconomic cluster located on the right part of the distribution of the municipality curve (about two-thirds of the strong schools are located above the median of the cumulative distribution of classes, whereas all of the wealthy municipalities are located above the median). This finding indicates affirmative action within the municipalities. Another illustration of the last finding is that schools with pupils from medium-strong backgrounds constitute 70 percent of the total of Jewish state primary schools, but in the top decile of the Lorenz curve of schools their share drops to only 50 percent.

The figure further indicates that in more than 40 percent of the classes the municipality funds no teaching hours at all (see the part of the school curve that touches the horizontal axis).

When we examine the funding of hours according to the socioeconomic background of the pupils and of the municipalities, we find that over the years there is no significant change in the number of hours the municipalities funds (Figures 4-5). This is the case even though in the 2003-2004 school year the Shoshani Report began to be implemented – a move that expanded affirmative action in the budgeting of Ministry of Education standard hours (see Blass et al., 2010). That expansion could have led to an increase in the number of hours funded by the strong municipalities, because after the report was implemented their pupils received fewer teaching hours from the Ministry of Education, but in fact no such expansion occurred.

Along with the municipalities' funding, the involvement of NGOs and parents in the funding of teaching hours in official Jewish state primary schools in the years 2001-2009 (Tables 2 and 3 above) is also of interest. NGOs funded an average of 3.3 weekly hours per class (compared to 2.0 hours funded by the municipalities), which is 6 percent of the total hours and 54 percent of the hours funded by sources other than the Ministry of Education. The NGOs exercised a clear policy of affirmative action. During the period under study, NGO funding increased, especially for schools whose pupils came from weak backgrounds (Figure 4).

Figure 4  
**Teacher's working hours in state primary schools,\***  
**by funding source and the socioeconomic background of its pupils\*\***  
 teachers' weekly working hours, 2006-2009 relative to 2001-2004



\* Official schools with grades 1-6 only

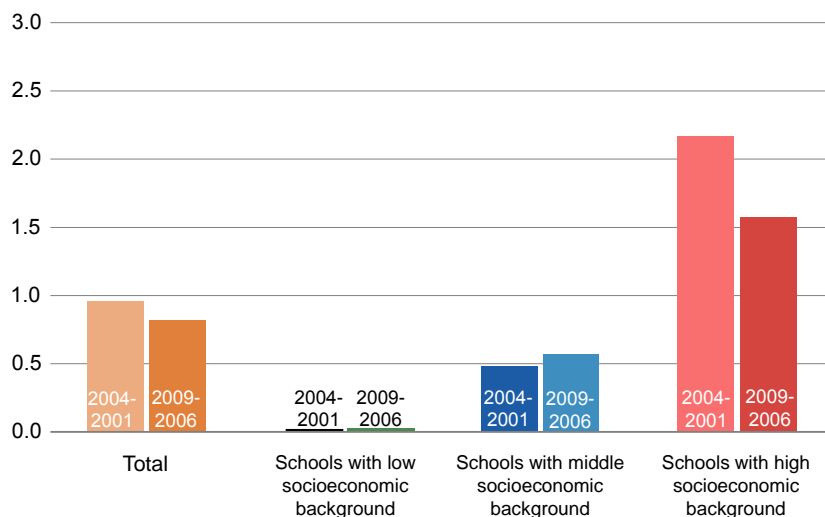
\*\* Low socioeconomic background – Deprivation Index deciles 8-10; middle – Deprivation Index deciles 4-7; high – Deprivation Index deciles 1-3

Source: Blass, Zussman and Tsur, Taub Center

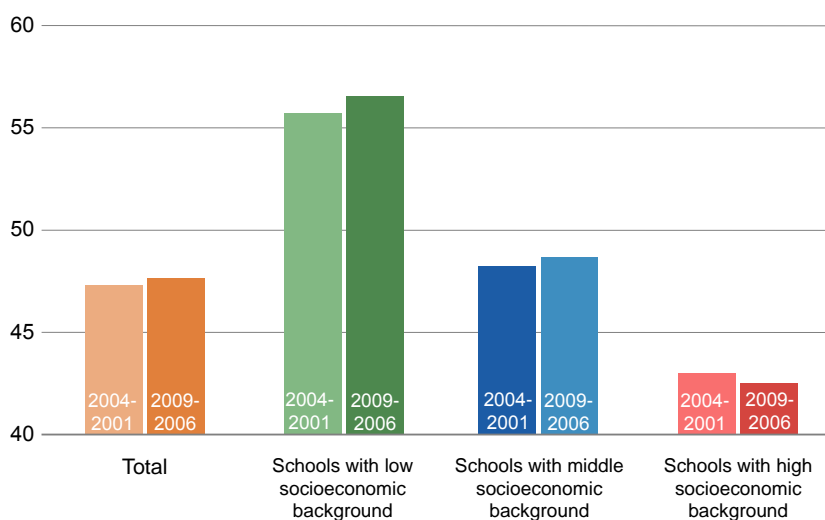
Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics, 2009

Figure 4 (continued)  
**Teacher's working hours in state primary schools,\***  
**by funding source and the socioeconomic background of its pupils\*\***  
 teachers' weekly working hours, 2006-2009 relative to 2001-2004

### C. Parental funding



### D. Ministry of Education funding



\* Official schools with grades 1-6 only

\*\* Low socioeconomic background – Deprivation Index deciles 8-10; middle – Deprivation Index deciles 4-7; high – Deprivation Index deciles 1-3

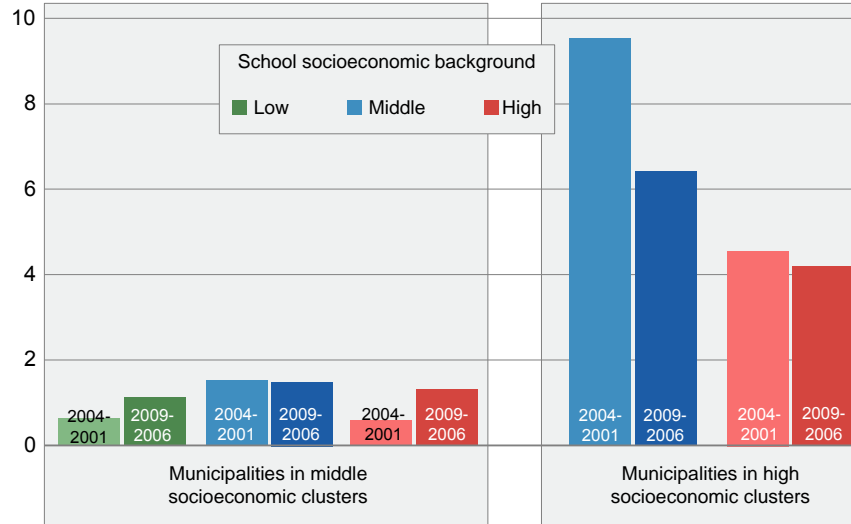
Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics, 2009

Figure 5

### Teacher's working hours funded by the municipalities in Jewish state primary schools\*

teachers' weekly working hours per class, by socioeconomic background of the municipality\*\* and the school pupils,\*\*\*  
2006-2009 relative to 2001-2004



\* Official schools with grades 1-6 only

\*\* Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10. There are very few state Jewish schools in the lower socioeconomic cluster.

\*\*\* Low socioeconomic background – Deprivation Index deciles 8-10; middle – Deprivation Index deciles 4-7; high – Deprivation Index deciles 1-3

Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics, 2009

Parents funded about 0.9 weekly hours per class (as part of the Talan “additional class hours” program), which constitutes less than 2 percent of the total hours per class and 14 percent of the hours funded by sources other than the Ministry of Education. As expected, parental contribution is greater among those from stronger socioeconomic backgrounds. During the study period, parental funding remained almost unchanged, except for a small reduction among the most affluent (Figure 4).

We should note that the activity of NGOs in Arab education is limited relative to Jewish education, and that activity is progressive. Likewise, in that sector, parental contribution is negligible (Table 1).

In conclusion, the number of weekly teaching hours per class in Jewish state education from sources other than the Ministry of Education – which is to say, hours funded by municipalities, NGOs and parents – in the years 2001-2009 was 6 hours, which is 11 percent of the total weekly teaching hours. It appears that the allocation of the total of those resources does not reflect a significant policy of affirmative action based on the pupils' socioeconomic backgrounds, because of conflicting influences: the NGOs' progressive policy, on the one hand, and the overall regressive influence of the municipalities<sup>13</sup> on the other hand, as well as the regressive influence of the parents in the strong schools. As a result, the number of hours funded by the Ministry of Education per class in a school whose pupils come from a weak background was 32 percent higher than funding per class in a school whose pupils come from a strong background (a difference of 14 hours in favor of the former), and after the addition of the remaining resources, the extent of affirmative action dropped to 29 percent (a reduction of about one hour). In other words, the final result is a weak regressivity in funding from sources other than the Ministry of Education.

## ***2. Estimate Results***

This section describes the results of statistic estimates (OLS) that examine the correlates of the number of weekly hours per class that the municipalities funded in 2001-2009 in official Jewish state primary education (Table 5). These factors include the pupils' and municipalities' socioeconomic backgrounds and the sources of funding other than the municipalities.

The estimations in Table 5 were carried out in two ways: once without fixed effects (FE) for the municipality, and the second time with FE,<sup>14</sup> so that the second model also controls unobservable characteristics of the

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<sup>13</sup> As noted, the strong municipalities do pursue a policy of affirmative action and direct more resources to weak schools, but that activity only partly offsets the budgeting gap between them and other municipalities.

<sup>14</sup> The Hausman test showed that the use of the fixed effects model was preferable to the random effects model.

municipalities (such as resident preferences, characteristics of the local educational administration and so on), which remained static during the study period.<sup>15</sup>

*Estimation Without Fixed Effects for the Municipality  
(Table 5, Model 1)*

The socioeconomic ranking of the municipality is as expected positively correlated with the number of hours per class – the addition of one cluster unit in the socioeconomic ranking (on a scale of 1 to 10) is correlated with a rise of 0.4 hours per class. There is a negative correlation between the Deprivation Index of Jewish state primary schools and the funding of teaching hours by the municipality, apparently as a consequence of the fact that in weak municipalities the average Deprivation Index of the schools is relatively high.

No correlation was found between the level of funding by NGOs and budgeting by the municipality. In general, it is not clear what the relationship is between NGO funding and municipality funding. On the one hand, it is possible that when NGOs operate in a school the municipality removes its responsibility and withdraws, and on the other hand, some of the NGOs provide resources to schools only when funds are matched by the municipality (see Weinheber, Ben-Nun and Schiffman, 1998).

No significant positive correlation was found between the level of parental payments and the funding of teaching hours by the municipality – even though more affluent parents, who can contribute to funding teaching hours, live in wealthy municipalities that allocate more resources for education.

The Ministry of Education provides two kinds of teaching hours (for details on this see Blass, Tsur and Zussman (2010)): standard hours – core hours allocated by uniform standards; and nonstandard teaching hours – additional teaching hours. The more nonstandard teaching hours the Ministry of Education provided, the more municipal budgeting to fund primary education increased (a 15 percent level of significance). This result might arise from the fact that some of the allocation of nonstandard hours by the Ministry of Education also depends on the

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<sup>15</sup> Estimations that omitted schools where the number of weekly teaching hours funded by the municipality was exceptional (over 15 weekly hours) yielded similar results to those presented below.



municipality's matching of funding (for example, Keren Karev sometimes stipulates its funding on the contribution of the Ministry of Education, the municipalities and the parents). Furthermore, the Ministry of Education appears to tend to contribute to funding projects where the municipalities bear a considerable part of the costs, because their chances of success are higher due to the active involvement of the municipalities.

The higher the municipality's revenue per resident and the lower its debt, the higher the number of teaching hours the municipality funds, even when taking into account its socioeconomic cluster. When average revenue per resident from all sources increases by NIS 1,000 (average revenue per resident during the study period was NIS 5,900 in the average prices of that period), the number of weekly hours per class funded by the municipality rises by nearly 0.4 (the average number of hours per class funded by the municipality was 2.0), and therefore the elasticity of hours funded by the municipality relative to revenue per resident (in average values) was 1.2. Elasticity relative to debt per resident (in absolute values) was -0.36. Not surprisingly, Strawczynski and Zeira (2003) found that on the national level an increase in government deficit (in terms of product) is positively correlated with a rise in the share of public expenditure on education in GDP.

The greater the number of pupils in the school the lower the participation of the municipality in funding hours per class,<sup>16</sup> possibly because of economics of scale in funding non-frontal teaching hours.

### *Estimation Without Fixed Effects for the Municipality (Table 5, Models 2-3)*

In an estimation that takes into account the fixed characteristics of the municipality (Model 2), a positive and significant estimate of the school's Deprivation Index is obtained: the higher the school's Deprivation Index (that is, the lower the school population's socioeconomic status), the higher the budgeting of teaching hours by the municipality. This means that the municipalities positively pursue a policy of affirmative action in favor of schools whose pupils come from weak socioeconomic backgrounds; the weakest schools received from the municipality about two hours per class more than the strongest schools in the same municipality.

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<sup>16</sup> Even though in large schools classroom crowding is typically relatively high, something that actually requires increased hours.

A positive correlation (a 15 percent level of significance) was found between nonstandard Ministry of Education hours and the funding of hours by the municipality, as was the case in the previous estimation.

The estimators of the fiscal variables are not significant, apparently because over the years they hardly change within the same municipality (relative to the multi-annual average in the municipality in the FE).

Does the degree of affirmative action depend on characteristics of the municipality and the school? In order to answer this question, we added to the estimate interaction variables between the school's Deprivation Index and those variables (Model 3).<sup>17</sup> Whereas the FE of the municipality reflects differences between municipalities in the average number of teaching hours allocated to all of the schools in their district (expressed by the size of the secant in the estimate), the interaction variable indicates the correlation between the characteristics of the municipality and the schools and the differential allocation of hours according to the Deprivation Index of the schools in the municipality. Affirmative action increases according to the socioeconomic ranking of the municipality, a finding consistent with that presented in Figure 5 above. Affirmative action increases with funding of nonstandard teaching hours by the Ministry of Education, apparently thanks to matching funding by the municipality with the Ministry of Education's budgeting for weak schools. An addition of NIS 1,000 of revenue per resident is accompanied by an increase of 0.1 hours per class funded by the municipality for each additional unit in the school's Deprivation Index (on a scale of 1 to 10). An increase of NIS 1,000 in debt per resident leads to a drop of 0.2 hours.

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<sup>17</sup> The factors correlated with the municipality's affirmative action policy in funding its Jewish state primary education schools could have been estimated directly by an estimation where the unit of investigation is the municipality. The dependent variable in the estimation is the gap between the multi-annual average number of weekly hours per class in the higher half of the median of the Deprivation Index, funded by the municipality, and the average in the schools in the lower half of the median; the independent variables are the average of the dependent variables that appear in Table 5. This estimation could not be conducted because of the limited number of municipalities where enough schools were sampled in the Ministry of Education's audit.

Table 5. **Estimates of the number of weekly teaching hours in official state primary classes<sup>1</sup> that is funded by the municipalities,<sup>2</sup> 2001-2009**

adjusted standard deviation at the municipality level in parentheses

		<b>Without FE for municipalities Model 1</b>	<b>With FE for municipalities<sup>3</sup> Model 2    Model 3</b>	
Municipality socioeconomic cluster (1-the lowest; 10-the highest)		**0.374 (0.177)		
School Deprivation Index (1-high/strong socioeconomic background; 10-low/weak)		*-0.126 (0.068)	*0.228 (0.125)	*-0.777 (0.595)
Class hours that are not funded by the municipality	NGOs	0.001 (0.031)	-0.028 (0.025)	-0.068 (0.043)
	Parents	0.066 (0.070)	-0.053 (0.052)	-0.028 (0.044)
	Min. of Education (standard hours)	0.019 (0.027)	-0.003 (0.026)	0.061 (0.069)
	Min. of Education (non-standard hours)	0.045 (0.030)	0.037 (0.024)	-0.053 (0.041)
Fiscal situation in the previous year (in NIS thousand per resident)	Revenue	**0.431 (0.195)	0.104 (0.186)	-0.160 (0.233)
	Deficit	0.260 (1.009)	-0.934 (0.381)	-0.981 (2.189)
	Debt	***-0.916 (0.256)	0.054 (0.350)	0.862 (0.542)
School Deprivation Index X municipality cluster <sup>4</sup>				***0.150 (0.050)
School Deprivation Index X Min. of Education non-standard hours				**0.018 (0.009)
School Deprivation Index X revenue from residents (NIS thousands)				*0.061 (0.033)
School Deprivation Index X debt per resident (NIS thousands)				**0.182 (0.082)
Share of pupils in primary school in the municipality population <sup>5</sup> (in percent)		0.005 (0.095)		
Number of pupils in school		**0.003 (0.001)	-0.001 (0.001)	-0.001 (0.002)
Number of observations		876	899	877
Number of municipalities		91	95	95
Adjusted R <sup>2</sup>		0.293	0.525	0.559

\* Significance level of 10%; \*\* Significance level of 5%; \*\*\* Significance level of 1%

1) Primary schools with grades 1-6 only

2) City government and local authorities. Only years with an audit that included at least 3 Jewish primary schools were included.

3) The estimates included the following explanatory variables (interacting with the school Deprivation Index): Deprivation Index X hours funded by non-profits, Deprivation Index X hours funded by parents, Deprivation Index X Ministry of Education standard hours, Deprivation Index X deficit, Deprivation Index X number of pupils in the school. None of the estimates of the variables are significant at the 10% level.

4) Municipality socioeconomic cluster in 2006

5) 2006

Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics and Ministry of the Interior (various years)

## Appendix

Appendix Table 1. **Number of regular official Jewish state primary schools that were sampled in the audit of teachers' working hours**  
by municipalities, 2001-2009

<b>Municipality</b>	<b>Socioeconomic cluster (2006)</b>	<b>Number of schools in the sample</b>
Acre	4	11
Afula	5	12
Alfe Menashe	8	1
Aluma (regional council)	6	2
Arad	5	6
Ariel	6	6
Ashdod	5	28
Ashkelon	5	19
Bat Yam	6	16
Beer Sheba	5	49
Beer Tuvia (regional council)	6	9
Beit Dagan	6	2
Beit Shean	5	2
Beit Shemesh	3	8
Bnei Ayish	5	2
Bnei Brak	2	3
Beit Shean Valley (regional council)	6	1
Bnei Shimon (regional council)	6	2
Central Arava (regional council)	8	2
Dimona	4	10
Eilat	5	14
Emek Hefer (regional council)	7	10
Emek Yezreel (regional council)	7	7
Even Yehuda	8	2
Gan Yavneh	6	4
Ganei Tikva	8	2
Gedera	6	7

Appendix Table 1. **Number of regular official Jewish state primary schools that were sampled in the audit of teachers' working hours**  
by municipalities, 2001-2009 (continued)

<b>Municipality</b>	<b>Socioeconomic cluster (2006)</b>	<b>Number of schools in the sample</b>
Gezer (regional council)	6	2
Gilboa (regional council)	5	5
Givat Ze'ev	6	2
Hadera	6	11
Haifa	7	55
Har Adar	9	2
Hatzor HaGlilit	4	3
Hod Hasharon	8	11
Herzliya	8	20
Hevel Modi'in (regional council)	6	6
Hof Ashkelon (regional council)	6	2
Hof HaCarmel (regional council)	7	10
Hof HaSharon (regional council)	8	7
Holon	6	38
Jerusalem	4	57
Jordan Valley (regional council)	6	2
Karmiel	6	10
Karnei Shomron	5	1
Katzrin	5	1
Kfar Saba	7	15
Kfar Yona	6	4
Kiryat Ata	6	10
Kiryat Bialik	7	16
Kiryat Ekron	5	1
Kiryat Gat	4	16
Kiryat Malachi	4	4
Kiryat Motzkin	7	6
Kiryat Ono	9	8
Kiryat Shmona	5	7

Appendix Table 1. **Number of regular official Jewish state primary schools that were sampled in the audit of teachers' working hours**  
by municipalities, 2001-2009 (continued)

<b>Municipality</b>	<b>Socioeconomic cluster (2006)</b>	<b>Number of schools in the sample</b>
Kiryat Tivon	9	4
Kiryat Yam	5	10
Kokhav Ya'ir	8	2
Lahish (regional council)	6	1
Lehavim	9	1
Lev HaSharon (regional council)	7	4
Lod	4	2
Lower Galilee (regional council)	6	2
Ma'ale Adumim	6	7
Ma'ale Yosef (regional council)	6	2
Ma'ala-Tarshiha	5	4
Mevo'ot HaHermon (regional council)	6	1
Mevassert Zion	8	6
Mateh Asher (regional council)	6	4
Mateh Binyamin (regional council)	4	2
Mateh Yehuda (regional council)	6	3
Mazkeret Batya	7	5
Meggido (regional council)	6	3
Megillot Yam Hamelach (regional council)	6	4
Meitar	9	2
Menashe (regional council)	5	2
Merhavim (regional council)	5	3
Merom HaGalil (regional council)	4	1
Metulla	8	2
Migdal HaEmek	5	5
Misgav (regional council)	6	4
Mizpe Ramon	5	1
Modi'in-Maccabim-Reut	8	20
Nahariya	6	11

Appendix Table 1. **Number of regular official Jewish state primary schools that were sampled in the audit of teachers' working hours**  
by municipalities, 2001-2009 (continued)

<b>Municipality</b>	<b>Socioeconomic cluster (2006)</b>	<b>Number of schools in the sample</b>
Nazareth Elite	6	13
Nes Ziona	7	7
Nesher	7	7
Netanya	6	29
Netivot	3	1
Ofakim	4	7
Omer	10	2
Or Akiva	5	5
Or Yehuda	5	11
Oranit	7	1
Pardes Hannah-Karkur	6	8
Pardessiya	7	1
Petah Tikva	6	36
Ra'anana	8	13
Ramat HaSharon	9	6
Ramat Yishai	8	1
Ramle	4	10
Rehovot	6	21
Rishon LeZion	7	47
Rosh HaAyin	6	10
Rosh Pina	7	3
Safed	3	6
Sderot	5	1
Sharon South (regional council)	8	7
Shoham	8	5
Shomron	5	1
Tamar (regional council)q	6	1
Tel Aviv-Yafo	8	64
Telmond	8	3

Appendix Table 1. **Number of regular official Jewish state primary schools that were sampled in the audit of teachers' working hours**  
by municipalities, 2001-2009 (continued)

<b>Municipality</b>	<b>Socioeconomic cluster (2006)</b>	<b>Number of schools in the sample</b>
Tiberias	5	11
Tirat Carmel	5	5
Tzoran-Kadima	7	2
Upper Galilee (regional council)	6	7
Yavne	6	5
Yavne'el	4	2
Yehud-Neve Efraim	7	4
Yeruham	4	2
Yesud HaMa'ala	8	3
Yoav (regional council)	6	4
Yokne'am Elite	6	11
Zevulun (regional council)	6	3
Zichron Yaakov	7	6

Source: Blass, Zussman and Tsur, Taub Center

Data: Eida – Economic Management and Advice, Ltd.; Central Bureau of Statistics (2009)



Appendix Table 2. **Correlations between key study variables<sup>1</sup>**

	<b>Revenue from resident</b>	<b>Deficit per resident</b>	<b>Debt per resident</b>	<b>Municipal socio-economic cluster<sup>2</sup></b>	<b>Average Deprivation Index of municipal schools<sup>3</sup></b>	<b>Share of primary school pupils in population<sup>4</sup></b>	<b>Municipal spending per class in primary education</b>
Revenue from residents	1.00	-0.05	-0.32	0.45	-0.20	0.36	0.44
Deficit per resident	--	1.00	0.42	0.17	-0.25	-0.10	-0.05
Debt per resident	--	--	1.00	-0.00	-0.06	-0.12	-0.28
Municipal socio-economic cluster <sup>2</sup>	--	--	--	1.00	-0.65	-0.59	-0.31
Average Deprivation Index of municipal schools <sup>3</sup>	--	--	--	--	1.00	0.10	-0.25
Share of primary school pupils in population <sup>4</sup>	--	--	--	--	--	1.00	0.35
Municipal spending per class in primary education	--	--	--	--	--	--	1.00

1) Municipalities with Jewish state primary schools with grades 1-6 only

2) Municipality socioeconomic cluster in 2006. Low – clusters 1-3; middle – clusters 4-7; high – clusters 8-10.

3) Low socioeconomic background - Deprivation Index deciles 8-10; middle – Deprivation Index deciles 4-7; high – Deprivation Index deciles 1-3.

4) The share of pupils in primary education out of the municipal population in 2006

Source: Blass, Zussman and Tsur, Taub Center

Data: Economic Management and Advice, Ltd.; Central Bureau of Statistics and Ministry of the Interior (various years)

## References

### English

- Bank of Israel (2011), "Chapter 8: Welfare Policy Issues," *Annual Report – 2010*.
- Central Bureau of Statistics (2011), *Survey of Educational and Social Services, Primary and Secondary Schools, Hebrew and Arab Education 2007/08*, Publication No. SP 1446.
- Department of Education (2012a), *School Funding Reform: Next Steps towards a Fairer System*, London.
- Department of Education (2012b), *School Funding Reform: Next Steps towards a Fairer System – Equality Impact Assessment*, London.
- Lerman, Robert and Shlomo Yitzhaki (1984), "A Note on the Calculation and Interpretation of the Gini Index," *Economics Letters*, 15, No. 3-4, pp. 363-368.
- Pollack, Eliav (2012), *Weighted Student Funding in the Israeli Education System*, No. 57, Koret-Milken Institute.
- Strawczynski, Michel and Joseph Zeira (2003), "What Determines Education Expenditure in Israel?" *Israel Economic Review*, 1, pp. 11-33.
- United States General Accounting Office (GAO) (1998), *School Finance: State Efforts to Equalize Funding between Wealthy and Poor School Districts*, GAO/HEHE-98-92.
- Zhang, Yu, Suguru Mizunoya, You You, and Mun Tsang (2011), "Financial Inequity in Basic Education in Selected OECD Countries," *International Education Studies*, 4, No. 3, pp. 3-22.

### Hebrew

- Arlosoroff, Meira (2012), "A Tel Aviv child's education is twice as good as an Arab Israeli's," *Haaretz*, 10 January.
- Ben-Bassat, Avi and Momi Dahan (eds.) (2009), *The Political Economics of the Municipalities*, The Israel Democracy Institute.
- Blank, Yishai (2004), "Decentralized National Education: Local Government, Segregation, and Inequality in the Public Education System," *Tel Aviv University Law Review*, 28, pp. 347-416.
- Blass, Nachum and Dmitri Romanov (2010), *On Uniformity of Teacher's Pay and Their Position Relative to Other Salaried Workers*, Policy Paper 2010.13, Taub Center for Social Policy Studies in Israel.

- Blass, Nachum, Dmitri Romanov, Carmit Almasi, David Maagan, and Dan Scheinberg (2008), *Characteristics of the Distribution of the Teachers in Schools and Affirmative Action Policy*, Policy Paper, Taub Center for Social Policy Studies in Israel.
- Blass, Nachum, Shay Tsur and Noam Zussman (2010), *The Allocation of Teachers' Working Hours in Primary Education, 2001-2009*, Discussion Paper No. 2010.18, Research Department, Bank of Israel.
- Central Bureau of Statistics (2008), *Private and Public Expenditure on Education of Primary School Pupils in Israel, 2003*, SP 1303.
- Central Bureau of Statistics (2009), *Characterization and Classification of Geographical Units by the Socio-Economic Level of the Population, 2006*, Publication No. SP 1401.
- Central Bureau of Statistics (2013a), *National Expenditure on Education, 1962-2011*, Publication No. SP 1526.
- Central Bureau of Statistics (2013b), *National Expenditure on Education, 2009-2012*, Press Release 235/2013.
- Central Bureau of Statistics and Ministry of the Interior, *Local Authorities in Israel*, various years.
- Fogel, Nir (2011), *Segregation Level Among Pupils in Hebrew Schools*, Working Paper Series, No. 61, Central Bureau of Statistics.
- Klinov, Ruth (2010), *Financing Primary and Lower Secondary Schools 2003-2008*, Discussion Paper A10.01, The Maurice Falk Institute for Economic Research in Israel, Ltd., The Hebrew University of Jerusalem.
- Lavie, Victor, Ronit Tirosh and Reuben Gronau (2003), *Proposal for Reorganizing Public School Education in Israel Based on Decentralization and Zoning*, The 11<sup>th</sup> Caesarea Economic Policy Planning Forum, July 2003, Policy Paper No. 44, The Israel Democracy Institute.
- Swirski, Shlomo and Noga Dagan-Buzaglo (2009), *Segregation, Inequality and Lax Control: The Picture of Israeli Education*, Adva Center.
- Weinheber, Bat Chen, Rinat Ben-Nun and Eitan Schiffman (1998), *Survey of the Involvement of NGOs, Foundations and Business Philanthropies in the Education System*, Ministry of Education and Beit Berl College.