Fiscal Allotment Policy vis à vis Minorities: An Empirical Measurement of the Way in Which Israel's Majority Government Makes its Fiscal Allotments to the Arab Minority

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Abstract

This paper examines government attitudes to minorities in multi-national countries. The aim is to present a procedure that empirically measures government attitude to the minority sector of the population on matters relating to fiscal allotments. The paper applies the proposed procedure to the current situation in Israel, and examines whether the Israeli Government, which is dominated by the Jewish majority, adopts a policy of affirmative action to benefit the Arab minority. The study will examine this question within the parameters of local government. The general trend evident in the results of this study shows an increase in fiscal allotments transferred to Arab sector local authorities. Furthermore, results show that in the years 2006 and 2007 there was no significant difference between Arab and Jewish local authorities in the same socio-economic characteristics and the same peripheral level.

1 Introduction

In multi-national countries where one group dominates the government system, a question regarding the government's attitude to the minority may be raised. There is an important practical application to this question as psychologists have found that when a minority group feels (justifiably or not) that it is being subjected to discrimination, clinical responses such as anxiety, paranoia, hostility and helplessness are likely to emerge (Clark et al., 1999). Zayas (2001) found that ethnic discrimination of youths distorted the development of their identity and affected their social adjustment abilities. This had a detrimental affect on their ability to function and some of them adopted destructive behaviors such as violence and drug abuse. In addition, Crockett et al. (2003) found that

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discrimination limited the aspirations of the disadvantaged group and their ability to achieve higher goals was constrained.

According to Rabinowitz, et al. (2000), when the government system is dominated by the majority group, government policy towards the minority can be divided into two main categories: control and compromise. To avoid the destructive outcome mentioned above, the government should adopt an approach based on compromise. However, as mentioned above, the negative behavior stems from feelings of injustice and discrimination, even when this feeling is not justified. Therefore when the government in countries with control-based policy, which is usually accompanied by deprivation and discrimination against the minority, decide to shift to a compromise-based policy, it is not enough to simply make the change. This change must also be clearly visible or in other words, the minority must be convinced that the change has actually occurred.

The aim of this study is to present a procedure to facilitate the empirical measurement of the government's policy to determine whether or not the policy has actually changed on matters relating to fiscal allotments.

The majority / minority model is typical of Israel which has a population that may be divided into two main ethnic groups – the Jewish sector, which is the majority and represents approximately 82% of the total population; and the Arab sector, which is the minority and represents about 18% of the population. Over the years, there have been highs and lows (primarily the latter) in relations between the two groups. These two ethnic groups both lived under the rule of the British Empire until 1948, but following the departure of British troops, a harsh and bloody war erupted between the two peoples and ended with the land being split between the Arabs and the Jews. However, a large group of Arabs remained within the Jewish-ruled area (that is modern-day Israel, the subject of this study) thus becoming an ethnic minority. Initially, in the years following that war, the Jews regarded the Arabs as their enemy, and as a result, the government adopted a control-based policy towards the Arabs which was also reflected in its fiscal allotment policy. This study examines whether the fiscal policy of the government during the years 2001–2007 has changed its orientation towards the Arab sector.

This comparison is potentially problematic as it is difficult to determine exactly where a large part of the budget is spent because a considerable number of government projects (such as road building, establishing universities, cultural enterprises, etc.) serve both sectors of the population. However, it is advantageous to this study that in Israel the majority of Arabs and Jews live in areas that come under the auspices of separate local authorities which consequently makes it easier to distinguish between the Arab and Jewish sectors when it comes to funding for local authorities. It is important to note that funds distributed to the local authorities are not only for the municipal budget but also include a substantial portion of the welfare and education fiscal allotment. The hypothesis is that the government's attitude to the local authorities will be indicative of its attitude in other areas.

During the early years of the State [of Israel], the government's fiscal policy was characterized by Arab local authorities receiving less support and a lower fiscal allotment than the local authorities in the Jewish sector. However, Shahor (2005) and Razin (2002) showed that a change in fiscal policy occurred during the 1990s leading to increased fiscal allotments for the Arab sector local authorities. Furthermore, from 1994 onwards the per capita fiscal allotment in the Arab sector was greater, and until the year 2000 the difference between the two sectors continued to grow in favor of the Arab sector.

However, the fact that fiscal allotments for the Arab local authorities were increasing was not sufficient. Many studies (Abu Bader and Gottlieb (2008); Hasson and Abu-Asbah, 2004), and data from the Central Bureau of Statistics (see further details in this paper), found significant differences between the Jewish and Arab sector at a socio-economic level. In addition the Arabs leave in more peripheral region (see further details in this paper). It is therefore important to better the status of the Arab minority to a point of real equality. Moreover, there is a need for affirmative action or in other words, the fiscal allotments given to the Arab local authorities should be large enough to enable them to reduce the gap between the Arab and Jewish local authorities. The question is, of course, how to determine whether the additional fiscal allotments are sufficient. One method would be to compare the funds allocated annually to the Arab sector with those allocated to Jewish sectors with similar socio-economic characteristics (that is socio-economically weak groups in the Jewish sector), and the same peripheral level.

The research question will be: During the years 2001–2007, were fiscal allotments transferred by the government to Arab sector local authorities equal to fiscal allotments made to Jewish sector local authorities with the same characteristics?

2   Fiscal allotments for local authorities in Israel

In Israel, the funding for local government authority fiscal allotments comes from two primary sources:
1. Self-generated funds from municipal property taxes and rates collected from businesses and private individuals; and a range of fees collected by the local authority for permits and services provided.
2. Government allocated funds: in Israel, in the year 2007, 27% of the local authorities' total budget was provided by government funding. The percentage of government participation is lower in the wealthier local authorities and those with extensive self-generated funds. On the other hand, the local authorities in the weaker sectors (which include the majority of the Arab local authorities) the percentage of government funding is higher and may even reach 50% of the local authority's budget.

Government allocated funds take tow main forms:
   a) <u>Designated Contribution for Extraordinary Budget</u>: Includes budgeting for special programs and physical projects such as developing infrastructures, facilities, equipment, etc. (1,569 million NIS in 2007, which was approximately 12% of the government's total contribution to budgets for the local authorities).
   b) <u>Government participation in ordinary budget</u>: This funding is executed through tow main mechanisms:
      • <u>Revenue Support Grants</u>: the purpose of these grants, issued by the Ministry of the Interior, is to compensate financially disadvantaged local authorities with low levels of self-generated funds and to help resolve exceptional problems. In 2007, the revenue support grants given to local authorities totaled 2,134 million NIS, which was equivalent to 17% of the government's contribution to local authority budgets.
      • <u>Designated Contribution for Ordinary Activities</u>: includes budgeting for regular government services. The main areas being education (4,949 million NIS in 2007, which was approximately 40% of the government's total contribution to fiscal allotments for local authorities) and welfare (2,512 million NIS in 2007, which was approximately 19% of the government's total contribution to fiscal allotments for local authorities).

   This study will examine the government's participation in ordinary budget, i.e. "Revenue Support Grants" and "Designated Contribution for Ordinary Activities".
   I chose to deal with this part of the Government participation, because while the ordinary budget is supposedly determined according to fixed and objective criteria, the extraordinary fiscal allotments are allocated to the local authorities on a per project basis[2]. It therefore would seem that the ordinary budget highlights the regulations and standards by which the government operates.
   The main changes over the last two decades have occurred in the education budget and revenue support grants.
   <u>Criteria for the Allocation of the Revenue Support Grants</u>: Until 1994, there were no clear criteria for the allocation of the revenue support grants. The extent of this grant was determined by, among other factors, the performance level of the local authority. Those who spent more (and amassed debts) received more, thereby encouraging wasteful spending and the accumulation of budget deficits.
   From 1994 to 1999, the Ministry of the Interior implemented recommendations made by the Swari Committee, which stated that the revenue support grants should be determined according to specific criteria such as socio-economic status (weaker settlements will receive larger grants), the size of the local authority (smaller local

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   [2] In other words, the local authority requests a budget for a specific project and the government will decide whether or not the request will be approved.

authorities will receive larger grants), etc. However, the Swari Committee recommendations presented a number of problems, primarily that in a number of areas, socio-economic status was not adequately taken into account. For example, the Swari Committee recommended that support earmarked for the smaller local authorities should be given to them all, even those with a high socio-economic standard. This point carries a lot of weight in the current study because in Israel the strong local authorities are all in the Jewish sector, and quite a number of them are small local authorities, which according to the Swari Report should receive support because of their small population. Therefore granting additional funds to small local authorities with a high socio-economic standard will generate an unjustified increase in funds allocated to the Jewish local authorities in comparison to the allocations given to the Arab local authorities.

Consequently, from 2003 onwards, the Ministry of the Interior adopted new recommendations issued by the Gadish Committee (named after the Committee Chairperson, Yaakov Gadish). The principles that characterized the recommendations were as follows:

1. Government support for local authorities with a lower socio-economic level will be greater (similar principle to that declared by the Swari Committee).

2. Number of residents under the jurisdiction of the local authority: this criterion is based on the argument that size is advantageous when it comes to administering local authorities, i.e. the bigger the local authority the smaller the per capita expenditure. Consequently, the per capita support in the smaller local authorities needs to be greater. However, in contrast to the Swari Committee, the Gadish Committee was guided by the principle that only the small local authorities with a low socio-economic population should receive this support. The general population should not be burdened with the costs of funding a small local authority that has a population in the high socio-economic bracket (if the residents want to live in a small settlement then they should pay for it).

3. One of the components used to determine the Revenue Support Grant is the potential to collect payment of municipal rates and taxes. This principle is based on two points: firstly, families experiencing economic and/or social problems pay a reduced amount. The government's role is to compensate the local authorities that have a large number of families paying the reduced amount as mentioned above. Secondly, municipal rates and taxes collected by the local authorities from the businesses in the region are greater than the cost of the services provided by the local authority. Consequently, the local authorities that include a large number of businesses will be left with some "change" which they may then use to provide further services for the residents. Some local authorities include almost no businesses, and it is they who struggle to

provide the required services. In this case, the government must step in with assistance.

4. The Revenue Support Grant will be the tool used to encourage local authorities with special characterizations (particularly settlements in development areas).

5. Receipt of part of the Revenue Support Grant (about 15%) will be made conditional of meeting targets set for collecting municipal taxes and rates. According to Shahor (2008), the rate of municipal tax collection in the Arab sector is low, which at least in the initial stages will cause the budget allocated to the Arab local authorities to be less.

The method used to calculate the grant: To determine the extent of the grant, for each local authority the minimum expenditure required to provide essential services, and its potential revenue, will be calculated. The revenue support grant will be based on the difference between this expenditure and the revenues.

Transitional Period: as mentioned above, one of the outcomes of this program will be a reduction in funds allocated to the strong local authorities (primarily the smaller ones) which are all in the Jewish sector. It is expected therefore that the program will improve the state of the local authorities in the Arab sector. However, this type of change takes time to implement because the local authorities where the budget cuts occurred will require time to regroup. It is therefore proposed that this process will be carried out over a six year period (i.e. the process will be completed in 2009). This is significant for our current study because we can expect the Arab sector local authorities to show a gradual improvement in a process that will be complete in 2009.

Education Budget: The education budget in Israel is progressive and the weaker sectors receive preferential treatment. However, the criteria used to determine the fiscal allotments were neither clear nor uniform. Consequently, beginning in the 2003/2004 school year, the Ministry of Education began to allocate funds to the elementary school system using a uniform care index which is based on a differential standard for students. The components of the uniform care index (also known as the Shoshanni Index) are: mother's education, father's education, number of children in the family, date of immigration to Israel, immigrants from impoverished countries, residence in a peripheral area, and residence in a settlement in an area defined as being a "national preference" (development areas or settlements in the peripheral regions).

The students were grouped in deciles according to the abovementioned index components. A differential budget was set for each school based on the index grouping to which the school's students belonged. The fiscal allotment reflects the deciles to which the school belongs. Thus schools belonging to the lower deciles receive higher fiscal allotments per student. Because this plan involves reducing funding allocated to strong schools and the transfer of "leftover" post-reduction

funds to the weaker schools, it was decided that this change should be implemented gradually over a five year period to enable the schools receiving a reduced level of funding to reorganize in preparation for the budget change. The implementation process began in 2004 and was supposed to end in 2007. A significant point relevant to this study (the comparison between the Jewish and Arab sectors) concerns the additional fiscal allotments awarded to schools in National Priority Area A, an area which contains mainly Jewish settlements and almost no Arab settlements. However, in February 2006, the Supreme Court ruled that, until the "residence in a national priority area" component is defined in an egalitarian manner, additional fiscal allotments will be discontinued if the method used to calculate them includes this component. The Ministry of Education petitioned the courts to postpone implementation of this ruling, and the latter agreed to do so until the beginning of 2008. Consequently, during the period currently being studied, we may expect the education budget allocated to schools in the Arab sector to still be low in comparison to that allocated to schools on the same socio-economic level in the Jewish sector.

3   Data description

Table 1 shows the number of Jewish and Arab local authorities included in the study. Mixed local authorities (areas where Arabs and Jews live together under the same local authority), and the Druze (another small minority in Israel) local authorities, were not included in the study sample.

Table 1: Distribution by local authorities / sector in database.

	2001 - 2003	2004 - 2005	2006	2007
Jewish Local Authorities	123	115	115	112
Arab Local Authorities	65	62	60	59
Total	188	177	175	171

4   Data analysis

This research comprises two stages – the first stage compares the simple average of per capita fiscal allocations made by the government to the Jewish local

authorities with the simple average per capita fiscal allocations made to the Arab local authorities. The results are presented in Table 2.

Table 2: Per capita ordinary fiscal allotments given by central government to local authorities during the period 2001 - 2007 (NIS value as at 12/2001).

Year	Jewish	Arab	Arab Jewish Ratio
2001	1,595	2,380	1.49
2002	1,409	2,254	1.60
2003	1,401	2,085	1.49
2004	1,375	2,076	1.51
2005	1,360	2,181	1.60
2006	1,373	2,282	1.66
2007	1,544	2,566	1.66

It is clear from Table 2 that the local authorities in the Arab sector received a bigger fiscal allocation. Furthermore, if we consider the ratio between the funds allocated to the Arab sector and those allocated to the Jewish sector (in the last column) we can see that although this ratio drops during the years 2001 and 2003 it later rises again. Thus, by the year 2007, the per capita fiscal allocation in the Arab sector is 66% greater than the Jewish sector. In other words, the disparity between the two sectors continues to grow (in favor of the Arab sector).

As previously mentioned, these findings do not indicate that the fiscal support given to the Arab sector is too great because Israel's Arab sector local authorities are weaker socio-economically and more peripheral. Therefore they are entitled to a higher level of support. However, given that the government budget is funded by income generated by taxes, and that taxes are paid by the stronger sectors (primarily by the Jewish sector), it would be very reasonable to say that the State of Israel is "taking money from the Jewish majority and transferring it to the Arab minority". This process can be viewed as the majority government taking steps to compensate the Arab sector for the discrimination and deprivation that it endured in the early years of the Sate [of Israel]. Whatever the case, it would appear that the government is making the transition from control-based policy to compromise-based policy.

5 Additional factors affecting government fiscal allotments

As mentioned above, the fact that the per capita support for the Arab local authorities is greater than for the Jewish local authorities does not constitute sufficient evidence to indicate a shift in the government's attitude towards the Arab local authorities because it is likely that other factors are also affecting the government's fiscal allotments to the local authorities. Three such factors are noted below:

  1) <u>Socio-economic status of the local authority</u>: as mentioned above, in a welfare state the government is supposed to transfer funding sources from the stronger groups to the weaker ones. Consequently, government support for weak local authorities is expected to be greater. The strength of a local authority is indicated by its socio-economic cluster. The Central Bureau for Statistics divides local authorities in Israel into 10 socio-economic clusters based on certain criteria such as family size, average income, level of education, standard of accommodation, means of transport, etc. Cluster 1 includes the weakest local authorities, while cluster 10 includes the strongest. Table 3 shows the distribution of local authorities in their different clusters, by sector.

Table 3: Distribution of local authorities in socio-economic clusters, by sector[*].

Cluster	Number of local authorities	
	Jewish	Arab
1	1	7
2	6	26
3	2	18
4	15	8
5	26	1
6	14	1
7	19	0
8	23	0
9	6	0
10	2	0
total	114	61

[*]This distribution includes those local authorities found in the 2006 database.

As can be seen above, the Arab local authorities appear in the lower clusters. Consequently, the finding that the government gives a larger

fiscal allotment to the Arab local authorities than to the Jewish local authorities is not sufficient to determine whether or not the Arab local authorities are receiving all that is due to them.

Table 4: Distribution of local authorities in peripheral levels, by sector[*].

Peripheral level	Number of Local Authorities	
	Jewish	Arab
1	4	0
2	8	0
3	14	0
4	21	5
5	26	10
6	15	15
7	14	27
8	9	3
9	2	1
10	1	0
total	114	61

[*]This distribution includes those local authorities found in the 2006 database.

2) <u>Peripheral level</u>: The theory says that central regions are in an advantageous position compared to peripheral regions, and that these advantages are stronger the more centrally a region is located. Therefore the per capita fiscal allotment to local authorities in peripheral regions must be increased. The Central Bureau for Statistics ranks local authorities in Israel by the peripheral Index in increasing order of peripheriality, and classifies them into 10 levels, starting from level 1 which includes the most central local authorities, and ending in level 10 which includes the most peripheral local authorities. The peripheral Index was calculated as a combination of two components (taken with equal weights):

   a. Potential Accessibility Index of local authority, which combines the proximity of the local authority to all the local authorities in the country with the size of their population. The size of the population serves as a proxy for a wide variety of economic parameters, such as employment, access to markets and services,

etc. Larger local authorities are in general more attractive to investors and immigrants.

b. Proximity of local authority to the boundary of the Tel Aviv District, which is called "economic heart of the country". Israel has a clear core-periphery structure, where the Tel Aviv District serves as the country's economic and business center located in its geographic center (close to the middle of the north-south axis). Therefore, proximity to the Tel Aviv District was emphasized as a separate component, although the distance from each local authority to the local authorities in the Tel Aviv District was taken into account within the Potential Accessibility Index as well.

Table 4 shows the distribution of local authorities in their different levels, by sector.

As can be seen above, the Arab local authorities appear in the more peripheral levels. Consequently, the per capita fiscal allotment to Arab local authorities must be increased.

3) <u>Population size of the local authority</u>: a common assertion claims that the population size of a local authority is advantageous in terms of its production function. This means that in order to provide residents of a small local authority with services identical to those provided in a large local authority, the per capita expenditure must be greater. Consequently, if the government wishes to provide all local authority residents with the same services, its per capita fiscal allotment to the small local authorities must be increased. Thus, the population size variable should be added to the model that determines the government's fiscal allotments to local authorities.

6   Methodology

As mentioned previously, a comparison of the per capita fiscal allotment (arithmetic mean), as shown in Table 2, will not provide sufficient information to determine the existence of discrimination because in a welfare state the government must distribute greater fiscal allocations to the weaker sectors. Furthermore, the extent of government support will depend on the size of the local government authority, physical location in the peripheral areas of the country, etc. Thus, to determine whether or not there is discrimination, one must compare government support allocated to Arab sector local authorities with that allocated to Jewish sector local authorities with parallel characteristics. It is necessary to build a model that contains a dummy variable for the Arab sector local authorities in

addition to the variables that represent the aforementioned characteristics. Variables that must be taken into account are population size, socio-economic status and location in the peripheral areas (i.e. distance from center of the country).
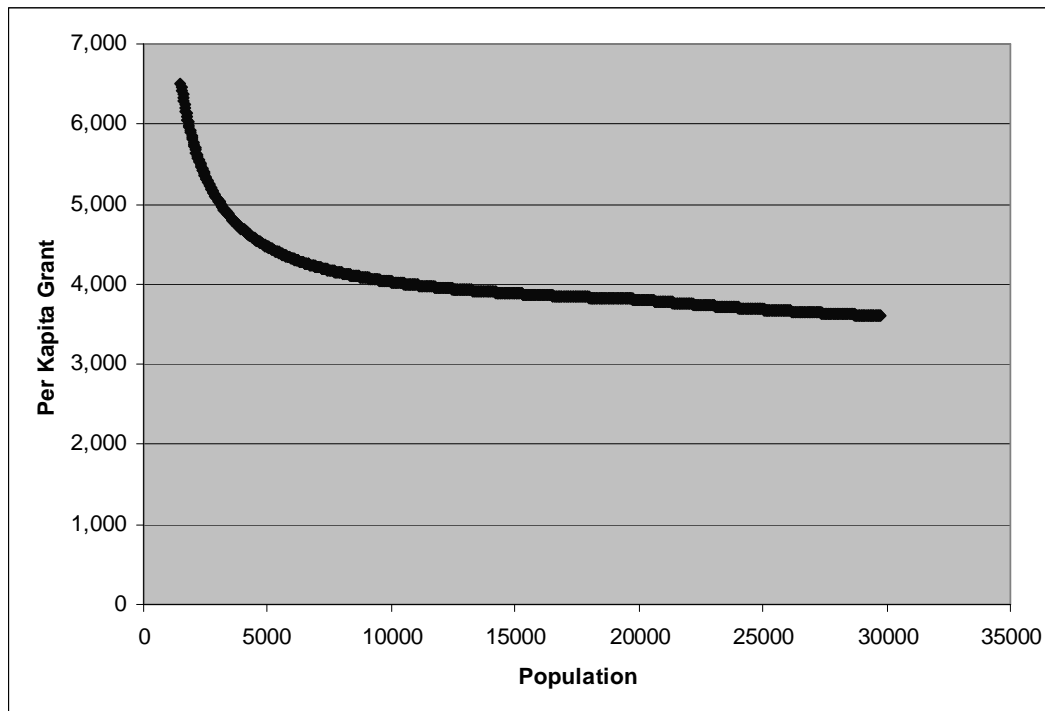

Figure 1: Anticipated size of revenue support grant per capita in relation to population size.

A number of problems arose while developing the model required for this type of test. The first problem stemmed from the correlation between government fiscal allotments awarded to local authorities and local authority size. This correlation should not be linear because the government's per capita participation should decrease in conjunction with the increase in population. There are definite advantages to the size of a local authority where operational costs are concerned because some of the expenditures (heads of departments, computer systems, garbage disposal vehicles, etc.) are fixed and as the population size increases these expenditures will be divided among a greater number of persons. In other words, the larger the local authority the smaller the per capita expenditure and the fiscal allocation per capita will therefore decrease. This situation occurs for another reason – the larger local authorities include a greater number of businesses that pay municipal property taxes and rates, thereby increasing the local authorities' self-generated funds which in turn reduces their need for government support. Furthermore, the formula used to calculate the Revenue Support Grant (which constitutes approximately 20% of the government contribution to local authority

budgets) is structured in such a way that the government's per capita support decreases as the local authority's population increases.

The anticipated per capita support according to the aforementioned formula, in relation to the size of the population is shown in Figure 1.

This correlation will be produced if a Log–Log or Semi-Log model is used. The Log-Log model produced the best results (the highest $R^{adjusted}$) and I therefore used this model. Appendix 1 contains the results for the Semi-Log model and shows that in terms of a comparison between the Jewish and the Arab sectors (which is the main subject of this paper); the results are similar to those generated by the Log–Log model (See Table 5)

The second problem that arose concerned the peripheral variable. In this case too the correlation between the peripheral status and government support should not be linear because although the peripheral status divides the local authorities into 10 groups, increased government support is only given to those local authorities that are truly far away. In other words, local authorities in the groups that are closer to the center of the country will not receive any additional government support, while those local authorities that are very far away will receive a particularly large amount. The Log–Log model was therefore also applicable in this case.

The third problem that arose concerned socio-economic status: The Central Bureau of Statistics ranks the local authorities in Israel according to their socio-economic status. We can therefore add a category variable where each local authority will receive this ranking. However, this type of variable assumes that the effect of the socio-economic status monotonically increases. This is definitely not the case and several other scenarios are feasible. One possibility is: governments are usually administered by citizens who enjoy good socio-economic status (particularly in clusters 1 and 2) and their attitude to those in the lower clusters are unclear. It is therefore possible that the assistance given to local authorities with a middling socio-economic status will be the same (or even greater) in comparison to local authorities in the lower clusters. Additionally, there are some small local authorities in the lower clusters that have a small population and their electoral weight or influence is therefore low. This certainly may result in the decision-makers being less interested in those at the lower social levels and may have a detrimental effect on the government support allocated to those groups.

In all these cases, presenting the socio-economic status using a monotonous variable will generate biased results. The solution would be to present the socio-economic status using dummy variables for each cluster. If such a variable is used, the local authorities in the same cluster would all receive a value of one, while the remainder will receive zero. It is usually enough for one cluster to remain free (i.e. without a dummy variable) and this would naturally be the tenth cluster. However the tenth cluster only contains two local authorities which received almost no government support whatsoever. It is therefore preferable to also leave the ninth

cluster without a dummy variable. Ultimately, we will have 8 dummy variables for clusters 1 to 8. The coefficients for these clusters show the difference in government support given to the local authorities in these clusters in comparison to that given to the local authorities in clusters 9 and 10.

All these issues will give us the following model:

$$G = e^{\beta_0} * e^{\beta_a D_a} * N^{\beta_n} * P^{\beta_p} * \prod_{j=1}^{8} e^{\beta_j D_j} \qquad (6.1)$$

where

G - Ordinary revenue sharing allotments made by the central government to each local authority.

D_a - Dummy variable that receives a value of 1 for Arab local authorities.

N - The population size of the local authority.

P - The peripheral level of the local authority.

D_j - Dummy variables that receives a value of 1 for local authority that belongs to socio-economic clusters j, where j = 1,2,…,8.

If we take a ln of both sides, the result will be the following equation:

$$\ln G = \beta_0 + \beta_a D_a + \beta_n \ln N + \beta_p \ln P + \sum_{j=1}^{8} \beta_j D_j \qquad .(6.2)$$

As mentioned previously, the important coefficient is β_a. One of the questions raised here is what is the exact meaning of this coefficient? To answer this question, we will divide the model for the Arab sector local authority (i.e. when $D_a = 1$) by the model for the Jewish sector, as shown in the equation below:

$$\frac{G(D_a = 1)}{G(D_a = 0)} = \frac{\beta_0 * e^{\beta_a D_a} * N_i^{\beta_n} * P_i^{\beta_p} * \prod_{j=1}^{8} e^{\beta_j D_j}}{\beta_0 * N_i^{\beta_n} * P_i^{\beta_p} * \prod_{j=1}^{8} e^{\beta_j D_j}} = e^{\beta_a} \qquad (6.3)$$

This shows us that e^{β_a} is the ratio between the support given to Arab sector local authorities and that given to the Jewish sector in the same socio-economic cluster, with the same size and the same peripheral status. It can also be said that e^{β_a} equals one plus the rate of change in support received by the Arab sector local authorities in relation to the Jewish sector local authorities. According to Taylor series:

$$e^{\beta_a} = \sum_{n=0}^{\infty} \frac{\beta_a{}^n}{n!} = 1 + \beta_a + \frac{\beta_a{}^2}{2} + \frac{\beta_a{}^3}{6} + ... \qquad (6.4)$$

Thus, if β_a is a small size, it will be almost equivalent to the rate of change in the support received by the Arab sector local authorities in relation to the Jewish sector local authorities. For example, if $\beta_a = 0.2$, then the rate of change is 0.22 (which is a reasonable approximation to our study). If, on the other hand, $\beta_a = 0.6$, then the rate of change is 0.795, which is a weak approximation. In this case, in order to find out the exact rate of change, we must calculate e^{β_a}.

One of the interesting questions that have arisen is the possibility that discrimination between the Jewish sector local authorities and the Arab sector local authorities does indeed exist but only in certain clusters. For example, it is possible that positive discrimination that benefits the majority group exists but only when the socio-economic status is relatively high, while at the low socio-economic levels, the government neglects every one. The reverse situation is also possible. It is possible that in order to avoid public criticism from the socialist bloc in the Jewish sector, the government assists the very weak Jewish sector local authorities only and neglects all others (middle level Jewish sector local authorities and all the Arab sector local authorities). In order to identify the failings in the government's policies and to propose corrective legislation to right this situation, it is important to compare the government support for the Jewish sector and for the Arab sector in each individual cluster. Therefore, please note that the model in equation (6.1) and the regression in equation (6.2) are based on the assumption that the coefficients for the dummy variables of the clusters are identical in each sector. Another assumption could possibly be applied in which each sector has a different coefficient. We will therefore assume that:

$$\beta_j = \tilde{\beta}_j + \alpha_j D_a \qquad (6.5)$$

where the coefficients for the dummy variables of the clusters are β_j, and D_a is, as stated, a dummy variable that receives a value of 1 for Arab local authorities. In this case, the coefficient for a non-Arab local authority in cluster j will be $\tilde{\beta}_j$, and the coefficient for an Arab local authority in cluster j will be $\tilde{\beta}_j + \alpha_j$. The basic hypothesis is that there are no differences between the coefficients for the Arab and the non-Arab local authorities, i.e. $\alpha_j = 0$. To test this assumption, we can place β_j that is in equation (6.5) in the regression equation (6.2). We will receive the following equation for each of the clusters:

$$\beta_j D_j = (\tilde{\beta}_j + \alpha_j D_a)D_j = \tilde{\beta}_j D_j + \alpha_j D_a D_j \tag{6.6}$$

Based on the 2003 cluster division, only Jewish local authorities can be found in clusters 7, 8, 9 and 10. Thus, the above is only relevant for clusters 1–6. The following regression was received:

$$\ln G_i = \beta_0 + \beta_n \ln N + \beta_p \ln P + \sum_{j=1}^{8} \tilde{\beta}_j D_j + \sum_{j=1}^{6} \alpha_j D_a D_j \tag{6.7}$$

The dummy variable D_a is included in the dummy variables for the clusters and was therefore removed from the regression (the addition of D_a produces perfect multicolinarity).

Table 5: Comparison of ordinary government participation in fiscal allotments to local authorities (evaluation p-values appear in parentheses).

Year	2001	2002	2003	2004	2005	2006	2007
Intercept	7.33 (0.00)	1.99 (0.00)	7.13 (0.00)	7.08 (0.00)	7.30 (0.00)	7.02 (0.00)	7.31 (0.00)
Arabs	-0.18 (0.02)	-0.22 (0.01)	-0.13 (0.11)	-0.23 (0.01)	-0.11 (0.2)	-0.10 (0.23)	-0.10 (0.26)
peripheral	0.23 (0.00)	0.22 (0.00)	0.20 (0.01)	0.28 (0.00)	**	0.18 (0.02)	**
population	0.77 (0.00)	0.77 (0.00)	0.82 (0.00)	0.79 (0.00)	0.76 (0.00)	0.78 (0.00)	0.77 (0.00)
Cluster 1	0.85 (0.00)	0.82 (0.00)	0.97 (0.00)	1.10 (0.00)	1.30 (0.00)	1.17 (0.00)	1.14 (0.00)
Cluster 2	0.81 (0.00)	0.92 (0.00)	0.88 (0.00)	1.09 (0.00)	1.25 (0.00)	1.21 (0.00)	1.28 (0.00)
Cluster 3	0.75 (0.00)	0.85 (0.00)	0.76 (0.00)	1.02 (0.00)	1.16 (0.00)	1.10 (0.00)	1.24 (0.00)
Cluster 4	0.89 (0)	0.95 (0)	0.94 (0)	1.07 (0)	1.30 (0)	1.23 (0)	1.30 (0.00)
Cluster 5	0.74 (0.00)	0.76 (0.00)	0.79 (0.00)	0.94 (0.00)	1.13 (0.00)	1.08 (0.00)	1.20 (0.00)
Cluster 6	0.66 (0.00)	0.66 (0.00)	0.65 (0.00)	0.82 (0.00)	0.88 (0.00)	0.87 (0.00)	0.88 (0.00)
Cluster 7	0.42 (0.00)	0.45 (0.00)	0.40 (0.00)	0.51 (0.00)	0.61 (0.00)	0.62 (0.00)	0.64 (0.00)
Cluster 8	0.39 (0.00)	0.40 (0.00)	0.37 (0.00)	0.54 (0.00)	0.56 (0.00)	0.64 (0.00)	0.62 (0.00)
adjustedR^2	0.91	0.90	0.90	0.90	0.89	0.89	0.90

** indicates that the coefficient is not significant and thus they dropped from the regression.

Table 6: Comparison of ordinary government participation in fiscal allotments to local authorities (evaluation p-values appear in parentheses).

Year	2001	2002	2003	2004	2005	2006	2007
Intercept	2.04 (0.00)	7.37 (0.00)	2.04 (0.00)	7.37 (0.00)	2.04 (0.00)	7.37 (0.00)	2.04 (0.00
α_1	**	**	**	**	**	**	**
α_2	**	**	**	**	**	**	**
α_3	-0.46 (0.02)	**	**	-0.63 (0.01)	-0.53 (0.03)	-0.50 (0.04)	**
α_4	-0.29 (0.03)	-0.29 (0.03)	-0.34 (0.02	-0.28 (0.05)	-0.27 (0.06)	-0.27 (0.05)	-0.29 (0.05)
α_5	**	**	**	**	**	**	**
α_6	**	**	**	**	**	**	**
peripherality	0.20 (0.00)	0.19 (0.01)	0.18 (0.01)	0.23 (0.00)	**	0.15 (0.06)	**
population	0.78 (0.00)	0.77 (0.00)	0.81 (0.00)	0.79 (0.00)	0.76 (0.00)	0.78 (0.00)	0.77 (0.00)
Cluster 1	0.70 (0.00)	0.80 (0.00)	0.88 (0.00)	0.91 (0.00)	1.20 (0.00)	1.09 (0.00)	1.06 (0.00)
Cluster 2	0.67 (0.00)	0.75 (0.00)	0.78 (0.00)	0.92 (0.00)	1.16 (0.00)	1.13 (0.00)	1.20 (0.00)
Cluster 3	1.00 (0.00)	0.67 (0.00)	0.66 (0.00)	1.39 (0.00)	1.54 (0.00)	1.46 (0.00)	1.16 (0.00)
Cluster 4	0.94 (0.00)	0.98 (0.00)	1.03 (0.00)	1.10 (0.00)	1.36 (0.00)	1.31 (0.00)	1.37 (0.00)
Cluster 5	0.74 (0.00)	0.75 (0.00)	0.79 (0.00)	0.94 (0.00)	1.12 (0.00)	1.08 (0.00)	1.19 (0.0)
Cluster 6	0.65 (0.00)	0.65 (0.00)	0.65 (0.00)	0.81 (0.00)	0.87 (0.00)	0.87 (0.00)	0.87 (0.00)
Cluster 7	0.41 (0.00)	0.44 (0.00)	0.40 (0.00)	0.51 (0.00)	0.61 (0.00)	0.62 (0.00)	0.64 (0.00)
Cluster 8	0.38 (0.00)	0.40 (0.00)	0.37 (0.00)	0.53 (0.00)	0.57 (0.00)	0.63 (0.00)	0.62 (0.00)
adjustedR^2	0.91	0.90	0.91	0.89	0.90	0.90	0.9

** indicates that the coefficient is not significant and thus they dropped from the regression.

7   The results

The results of the regression in equation (6.7) in the years 2001 - 2007 are set out in Table 5.

From these findings we can conclude that there is a general downward trend in the disparity between the Arab and Jewish local authorities with the same socio-economic characteristics and the same peripheral level; and that in the years 2006 and 2007, the disparity becomes insignificant. A deviation from this trend occurs in the year 2004. It is possible that this represents the central government's response to the violent events that occurred in the latter part of the year 2000. The effect of these disturbances on the fiscal allotments would only be felt in the year 2004. However, as can be seen, beginning in the year 2005, the central government seemed to reconsider its approach, once again continuing its transition to a compromise-based approach.

The results of the regression in equation (6.2) in the years 2001 - 2007 are set out in Table 6.

As can be seen from the results, while clusters 1, 2, 5 and 6 show no significant difference between the Jewish and Arab sector authorities, and in cluster 3 the disparity gradually decreases from 2004 onwards (until it becomes insignificant in 2007), in cluster 4 a significant and constant disparity is maintained over a period of time. It should be noted that this was also the case during the period from 2005 – 2007 when there was no significant disparity whatsoever between the Arab and Jewish sectors(as can be seen from Table 5) .It seems that the explanation for the results in cluster 4 lies in the special nature of the local authorities in the Jewish sector of this cluster. A government initiative established these settlements built in the 1950s, 1960s and 1970s in areas that it wished to develop, particularly outlying areas or areas that were important to national security. These areas were given "national preference" status and the government made extensive resources available to them. During this same period, Arab sector local authorities were not factored into the picture as a development agent (and in fact were even sometimes regarded as an impediment) and therefore did not benefit from the same resources. It would seem that despite an improvement in the status of Arab sector local authorities at a nationwide level, their "national preference" status continues to be inferior.

8   Summary and conclusions

This study focused on a comparison of government participation in fiscal allotments given to Jewish and Arab local authorities. Based on the assumption that changes in fiscal allotments may be indicative of the government's attitude towards minorities, we have examined Israel's central government's approach

towards the Arab minority as seen through fiscal allotments made to the local authorities. In the first stage, we saw that the per capita fiscal allotment in the Arab local authorities was greater than in the Jewish sector, and that during the years 2001 – 2007, the disparity continued to grow. However, as noted above, the fact that fiscal allotments were greater does not provide sufficient evidence because the socio economic conditions and the peripheral level of the Arab sector is poorer than that of the Jewish sector. It is therefore expected that Arab sector will receive a greater fiscal allotment. To determine whether or not the central government is shifting to a compromise-based policy towards the Arab sector, it was necessary to compare fiscal allotments given to similar sized Jewish and Arab local authorities with the same socio economic characteristics, and the same peripheral level. Findings showed that during the years 2001 – 2007, the disparity between the Arab and Jewish local authorities did indeed decrease, and that from the year 2005, the gap was not significant. We can therefore say that despite a relative deterioration in the Arab situation during the year 2004, the central government in Israel decided to continue making the transition from a control-based approach towards the Arab sector to a compromise-based approach (this transition had already begun in 1994). However, as can be seen in Table 6, in cluster 4 the fiscal allotment to the Arab localities is still lower than that given to the Jewish local authorities of a similar size, peripheral level and socio-economic status. It would thus seem that the process of transferring resources to the Arab sector is inadequate.

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Appendix 1

Table 7: the results for the Semi-Log model (Evaluation p-values appear in parentheses).

Year	2001	2002	2003	2004	2005	2006	2007
Intercept	-37,957 (0.00)	-330,365 (0.00)	-40,744 (0.00)	***	***	***	***
Arabs	-10,384 (0.05)	-11,368 (0.05)	-9,505 (0.08)	-7,579 (0.19)	-8,970 (0.15)	-8,494 (0.19)	-7,394 (0.26)
peripheral	***	11,449 (0.09)	***	-21,668 (0.00)	-21,761 (0.00)	-23,721 (0.00)	-25,604 (0.00)
population	35,082 (0.00)	38,334 (0.00)	34,737 (0.00)	33,256 (0.00)	34,829 (0.00)	36,807 (0.00)	38,396 (0.00)
Cluster 1	***	***	***	***	***	***	***
Cluster 2	***	***	***	***	***	***	***
Cluster 3	***	***	***	***	***	***	***
Cluster 4	***	***	***	***	***	***	***
Cluster 5	***	***	***	***	***	***	***
Cluster 6	***	***	***	***	-19,877 (0.04)	-20,934 (0.04)	-23,631 (0.02)
Cluster 7	***	***	***	-17,185 (0.04)	-22,845 (0.01)	-24,284 (0.01)	-23,874 (0.01)
Cluster 8	***	***	***	-16,796 (0.03)	-21,919 (0.01)	-23,649 (0.01)	-23,436 (0.01)
$R^{adjusted}$	0.63	0.64	0.60	0.78	0.78	0.78	0.80

** indicates that the coefficient is not significant and thus they dropped from the regression