Do Arab and Jewish Markets within Israel Converge?

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A case Study of Fruit and Vegetables, 1993-2004[1]

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ABSTRACT

There is ample evidence that prices and wages in Israeli-Arab sector are lower than in Jewish localities. The purpose of our project, of which this study is the first, is to examine the rates of change over time in these differentials, and in particular to find out whether convergence between the sectors occurs. This chapter looks at the market for fruit and vegetables, and finds that over the period 1993-2003 sectoral prices did converge. However, there was a break in this trend around 2000, the year of the second *intifada*, after which convergence resumed.

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1. Introduction

Numerous studies of the economic conditions of Arabs in Israel[4] (Ben-Porath, 1966; Halidi, 1988; Shavit, 1992; Lewin-Epstein and Semyonov, 1993; Semyonov and Lewin-Epstein, 2004; Haidar, 1995) apply the conceptual framework of a dual economy, characterized by wide and persistent gaps between Arabs and Jews vis-à-vis their socio-economic status; by technological, educational and occupational disparities; and by inter-sector trade reflecting these disparities.[5]

There is ample evidence to demonstrate that this situation still exists today. The question addressed in our project, of which this study is the first, is whether over time these gaps and disparities tend to stay constant, or do the sectors converge? And if processes of convergence take place, to what extent and in which areas? The question is relevant beyond this specific instance: it is applicable to the general issue of what happens when two separate economies, which are initially at very different stages of development, are pushed together.

2. Segmentation, discrimination, convergence

For the sake of the analysis, it is useful to employ a separate term for the product market and other terms for both the labor and capital markets. In this chapter we discuss a specific case of the product market.

Economic segmentation is defined here by the existence of barriers to the mobility of products (goods and non-factor services for consumption and investment) between the sectors. In the Israeli case, examples may include the exclusion of Arab suppliers from the Jewish market by marketing monopolies or the refusal of Jewish buyers to

[4] This article's subject is the economy of Israeli Arabs, who reside in and are citizens of Israel. We do not analyze the Palestinian economy in the occupied territories. Both terms "Israeli Arabs" and "Israeli Palestinians" are used in the relevant literature. We stick to the former so as to distinguish more easily between that sector and Palestinians in the occupied territories, as they represent two different markets.
[5] For a thorough discussion of duality during the British Mandate of Palestine, see Metzer (1998).

purchase Arab products. Segmentation is marked by a lack of arbitrage in the prices of various products, typically by lower prices in the Arab sector than in the Jewish sector. The antonym to segmentation is integration. Convergence is defined as a process of transition to greater integration.

Economic discrimination will be used here and in later work for describing ethnically-based differences in the price or non-pecuniary characteristics of labor of persons with equal productive capacity, even where the product markets are integrated (in the above sense) and mobility takes place.

It is generally accepted in the discipline of economics that integration is good for minorities.[6] The issue was first addressed in the theory of international trade, and its most famous formulation is known as the Stolper-Samuelson theorem of factor price equalization. The theorem states that opening the market to international trade reduces gaps (up to equalization) in wages and profits between developing and developed economies. Exporters in poorer countries get higher prices than those prevailing in their domestic market and this translates into higher wages and profits. Skill-intensive goods and services are imported from the more developed countries, where they are cheaper than their domestic equivalents.

The same idea was developed in Gary Becker's seminal doctoral thesis (Becker, 1957) with regard to internal markets. Integration, i.e., the removal of barriers to product mobility, enhances competitiveness. Competition in the product market favors non-discriminators and minority-group producers: non-discriminators compete for the cheaper minority workers, thereby raising their wages, and at the same time driving out the more expensive, discriminators' goods. Alternatively, the goods and services produced within the minority sector drive away the more expensive, majority products, and in the process minority products' prices rise, pushing up wages and profits. In this way wages and prices are equalized, without the need for the physical mobility of minority workers, and circumventing discrimination. One would therefore expect a rise in the degree of integration between the Arab and the Jewish markets to favor the former.

[6] This is not a zero-sum game. The majority benefits as well.

The present study is motivated by this line of thought. We ask whether the Arab and Jewish sectors have actually become more integrated over time. As mentioned, segmentation is characterized by differences between sectors in product prices. The test for further integration is therefore the convergence of prices. Our purpose is to isolate the role of the ethnic factor as a determinant of price differences between the sectors for the exact same products, and to determine whether this effect changed over time. Here we start with a very limited case study, the purpose of which is to document the trend of relative prices in the market for fruit and vegetables. Five items are selected: potatoes, carrots, onions, cucumbers and lemons. They were chosen because they are sold on a large scale and are standard enough to ignore quality differences. We measure changes in the inter-sector relative prices of these items for the period January 1993 to December 2004.[7]

In section 3 we discuss the data and general trends. Section 4 formulates the tests for measuring the existence of convergence and the rate of change in the degree of integration. Finally, section 5 presents and analyzes the results.

We found no empirical studies of segmentation and integration, let alone convergence, in the product market in Israel, but there does exist a study of convergence in the labor market: Kraus and Yonai (2004) analyze changes in the relative position of Arabs in the labor market over time, and in particular discuss whether and why convergence occurred.

The authors focus on the period between 1974 and 1991, examining the relative position in the labor market of three groups: Easterners (Jews originating in Islamic countries), Christian Arabs and Moslem Arabs. The basic theoretical approach distinguishes between "cultural" and "structural" factors causing segmentation and discrimination. Cultural factors are based on ethnic perceptions and stereotypes held by the respective groups. By contrast, structural determinants emphasize economic factors whereby the underlying reason for ethnic discrimination and for segmentation

[7] Data on earlier periods are less detailed, and we plan to extend the period at the price of accuracy in a subsequent stage of this study.

is the self interest of the dominant group, expressed via the political power structure. The structuralist approach is found by the authors to have a better explanatory power.

The natural conclusion of this line of thought is that to fight discrimination a minority needs a counter-power structure, which can only be found in an enclave economy. Indeed, the main finding (with reservations, which should be noted but cannot be fully reported here due to restrictions of space) is that "despite the domination of Jews in Israel, the gaps between Arab minorities and the Jewish minority (Easterners) narrowed, and in some respects closed altogether" (op. cit. p. 224). Based on our research thus far, we concur. However, we challenge the analysis offered by the authors regarding the mechanisms which brought this result about. Kraus and Yonai suggest that "given the advantage over Easterners that Israeli Palestinians enjoy in their potential for developing an *ethnic economy*, the existence of a *'protected' public sector* and the different structure of the high school system in the Palestinian communities, *structuralist approaches may predict that the Palestinian minorities would have improved their status relative to Easterners*" (op. cit. p. 207; the italics are ours). We want to test an alternative explanation, namely, that the main reason for decreasing ethnic disparities is the integration of markets rather than ethnic enclaves.

We turn now to the topic of this chapter, namely, integration processes in the markets of agricultural produce.

3. Data and general trends

As mentioned, we study the evolvement of an integrated market for fruit and vegetables, based on the Jewish-Arab relative prices of five items: potatoes, carrots, onions, cucumbers and lemons. It would have been interesting to follow the physical movement of products between the markets as well, but unfortunately direct evidence on the amount of each item traded between the sectors is lacking.[8]

Competition in the product market can take place both via the inter-sector mobility of consumers and through the mobility of goods among sellers. To distinguish between the two we tested price convergence in two parallel data sets. Both include all Arab

[8] As well, there is no continuous and consistent information on the amount of trade in these items between Israel and the occupied territories.

localities for which data are available, but in one set (the "consumers" version, henceforth referred to as the regional sample) we limited the set of Jewish localities to those neighboring Arab ones, whereas in the other set (the "producers" version, referred to as the country-wide sample) all Jewish localities are included. The similarity between the regions in the parameters of the regression indicates that the latter version dominates.[9] This would lead to an analysis of wholesale rather than retail prices, but unfortunately information exists only with regard to the latter.

The use of retail rather than wholesale prices means that a full equalization of prices is improbable.[10] The Arab population is, on the whole, poorer than the Jewish one. There is ample evidence that retail prices are lower in poorer communities, largely because the price of retail services (rent, salespersons' wages) are lower. Such differentials exist regardless of ethnic identity, and should be separated from price gaps due to nationality. In sum: an analysis of price differentials should distinguish between income and ethnic effects.[11] As will become clear, this distinction proved to be extremely difficult: Arabs are considerably poorer than Jews, and not much overlapping occurs.

The source of price data is the cost-of-living (COL) index of the Israeli Central Bureau of Statistics (CBS). Data on retail prices are collected monthly from a sample of business establishments (shops, markets, chain stores). The sample-selection procedures and the types of information collected are described in appendix A. Shops were identified by us as "Arab" or "Jewish," based on the ethnicity of the locality. In ethnically mixed localities the identification was based on the owner's name. The total number of observations in our regional sample is 35,954, of which 11,716 are Arab and 24,238 are Jews. The number of observations in the country sample is 101,216, of which 11,352 are Arabs (table 1; for additional details, see the appendix).

[9] This was also the impression gained from conversations with knowledgeable colleagues. It appears that though there is some movement of buyers of the foregoing products, trade is brisker among sellers – Arab producers sell their products to Jewish wholesale traders in central markets regardless of proximity to their place of residence.

[10] See also Kleiman (1997) and Lach (2005).

[11] Other factors which should be considered have to do with the degree of competition: number of stores in the locality, transportation facilities, population size, and geographic location. The last two were found to be insignificant, offering additional evidence that wholesale trade is the main force toward integration. Information on the number of shops and on transportation facilities may be available in the future, but, for the reasons noted above, is probably not very important.

Chart A1 shows the monthly non-weighted average price (in shekels) of 1 kg of the five products in the region, and chart A2 does the same in the country sample.[12] In order to correct for general inflation,[13] prices are deflated by the general COL index of the same month (basis is January 1993). For presentation purposes (but not in further analysis) the graph was smoothed within each year by a three-month moving average. As can be seen, prices converged between 1993-99. Towards the end of 1999 a break occurred, after which re-convergence is resumed. In the subsequent, more detailed analysis, we shall try to distinguish between two possible causes for the break in continuity: the *intifada* (intensified clashes between Israelis and Palestinians in the occupied territories, and to a smaller extent between Israeli Arabs and Jews), starting in 2000, and, increasing income differentials between Israeli Arabs and Jews during the later years.

Price averages and their variance for the period as a whole are summarized for the country sample in tables 2-4. From table 2 it appears that there are regional price differences, particularly in the Jewish sector – prices in the center are higher than those in Haifa and the north, but further analysis (available on request) shows that these differences are fully accounted for by regional differences in income levels. The table also shows that in most cases prices in the Arab sector are lower than in Jewish localities.

Table 3 shows that the average variance over the period is larger in the Jewish than the Arab sector. There are several possible explanations for this: greater income inequality among Jews; higher sensitivity to income fluctuations among Jews of the demand for these products; and larger supply fluctuations in the Jewish sector. We shall return to this issue in the final section.

To get a general impression of the importance of income elasticity to the variation in prices, table 4 reports, for the country sample, the average (deflated) price over the

[12] The larger differentials in chart A2 reflect the addition of wealthier Jewish localities to the regional selection.
[13] This is done for expository purpose, and, since the general COL, as is currently available, is the same for Jews and Arabs, it does not affect the results.

period of the five products, by ethnicity and socio-economic status of localities.[14] In the table, as well as in chart B, localities are classified into ten major categories, where 1 is the poorest. In fact, no locality for which price data were collected, whether Arab or Jewish, belongs to category 1.[15] In our sample all Arab localities belong to category 2, except two,[16] which belong to category 3. No Arab localities are above status 3. By contrast, only four Jewish localities are in category 3[17] (none in categories 1 and 2). This makes the distinction between income and ethnic factors very difficult and, as will be seen, our solutions are only partial.

According to table 4, retail prices rise with socio-economic status. In the Jewish sector, in three out of five products, prices in the highest (8, 9, 10) are 10-25 percent higher than those in the lowest (3, 4) status groups. Prices in the Arab sector are lower than those in the lowest socio-economic Jewish group in four out of five products.

Chart B shows the country-wide average non-weighted basket price of the five products over time, by status groups, for all localities in the country, regardless of ethnicity. As can be seen, price differences among status groups are persistent throughout the period, but rather narrow between the middle (5, 6, 7) and the poorest (2, 3, 4) localities.

4. Tests of convergence/divergence

To test the rate of price convergence we define variables as follows:

Dependent variable:

PRICE = Index of the price of product X in month t divided by the general COL index, base is January 1993 = 100.

Explanatory variables[18]

LAG-D-P = PRICE in the previous month t-1 at the same shop. This variable is introduced as a control for individual shop effect. In cases where the shop was

[14] Localities are ranked periodically by the CBS according to their socio-economic status, based on 16 indicators. We chose the 1999 ranking, as representing the average for the period. See Central Bureau of Statistics (1999).

[15] Kafr Manda belonged to category 1 in 1995, but to category 2 in 1999.

[16] Nazareth and Shfar'am.

[17] El'ad, Qiryat Arba, Netivot, Ofaqim.

[18] Originally we included two additional variables: a regional (center, north) variable and one for type of store (shop, stall in a market, chain store) .However, they were dropped when they turned out to be consistently insignificant.

dropped from the sample at t, and substituted by another shop, both PRICE and LAG-D-P were excluded from the estimation.

TIME = time, in months, in running numbers.

SECTOR: Jewish = 0; Arab = 1, classified by the ethnicity of the locality. In mixed localities, shops were classified by the owner's name.

SEC-TIME =Interaction of SECTOR and TIME

PERIOD = Dummy variable: 1993-1999 = 0; 2000-2004=1.

SEC-PERIOD = Interaction of SECTOR and PERIOD

D-INCOME = average monthly salary in the current year in the shop's locality, divided by the COL index.[19] This replaces the cruder classification by socio-economic status, which is available for only three points in time, and for ten broad categories.

Dummy variables for the products:

D-CARROTS

D-LEMONS

D-CUCUMBERS

D-ONIONS

Base is potatoes

Interaction between products and time:

T-CARROTS

T-LEMONS

T-CUCUMBERS

T-ONIONS

The reason for using two measures of time – ordinal for TIME and a dummy variable for PERIOD – is the break in the price series around year 2000, appearing in chart A.

The variables central to our tests of convergence are the interaction terms SEC-TIME and SEC-PERIOD. They measure changes over time in sector effects.

Throughout this paper an attempt has been made to distinguish between sector effects due to political and social barriers and those due to changes in relative income

[19] Sources: National Insurance Institute (NII). For 1993-98, Bendlak (1999); for 2000-04, Bendlak (2004). The average includes zero wages for the unemployed.

differentials between Arabs and Jews. The INCOME variable is introduced to allow this distinction. However, already at an early stage of the study it became clear that the correlation between SECTOR and INCOME is extremely high. In certain formulations of the estimating equations it was possible to distinguish between the two effects, but in others it was not. One way in which an attempt is made to circumvent the problem is to alternately drop one of these two variables, and see whether there is a difference in the explanatory power of the variable and of the equation as a whole. Unfortunately, no such difference was found. We therefore tried to separate the income from the sector effect by asking two separate questions: a) has there been any trend in sector income differentials? If the rate of change in real incomes differed between the sectors, it is possible to disentangle the sectoral from the income effect. And b) is there a difference between the sectors in their income-price elasticity? In non-technical language: within each sector, are prices in relatively wealthy localities higher than in poorer ones? For example, if income elasticity in the Arab sector is very small, then Arab prices will not be affected by either a rise or a fall in incomes, but Jewish prices will. This too enables one to distinguish between the two effects.

5. Results and interpretation

Table 5 summarizes the factors explaining changes in prices. Because of lack of relevance to the discussion, we omit from the table the coefficients of the specific products. The coefficients of regression of the time-related variables (TIME, PERIOD) have a negative sign, indicating a trend of decline in agricultural prices relative to the general COL index. In table 5, as expected, the income coefficient is positive, and the sector coefficient (Arabs = 1) negative. But, as mentioned, our main interest lies in the interactions between time and sector, which measures the sector-differentiated rate of price change, rather than price-level differentials. A positive coefficient indicates convergence. As can be seen, the coefficient SEC-TIME is positive, indicating convergence in the period 1993-2004 as a whole. However, the coefficient SEC-PERIOD is negative, indicating a break in 2000.

What caused the 2000 break? Here the sign of a price change is important for interpretation. From chart A1 it appears that the break was caused by a rise in Jewish-sector prices in 2000-01, whereas Arab prices continued to decline. Were the reasons

political, or did this occur because of an increasing income gap between the sectors? Table 6 summarizes the course of real earnings per employee, as reported by the National Insurance Institute (NII), and the relative Arab/Jewish earnings. The latter is measured using as alternative variables the ratio of average monthly earnings in Arab municipalities relative to Jewish ones, as recorded by the NII, and the Arab/Jewish earning ratio, as reported by the Income Surveys conducted by the Central Bureau of Statistics, based on individual reports. It appears from column 1 that between 1999-2001 there was a steep rise in the general level of real earnings per employee. Arab wages may not have declined, but certainly lagged behind the rise in the level of Jewish wages (columns 2 and 3 show a decline in Arab/Jewish relative earnings). The rise in agricultural prices in the Jewish sector is consistent with that: prices in the Jewish sector may have increased because of the rise in incomes, while no such trend occurred in Arab municipalities. Furthermore, as table 7 shows, the coefficient of price on income is positive and significant for Jews and non-significant for Arabs. The break may thus be due to income effects.

However, the change in relative prices may also be interpreted politically: the end of 2000 marks the onset of the *intifada*. At least for the initial period following the 2000 internal Israeli Arab-Jewish clashes, Jewish buyers refrained from patronizing Arab shops. Second, it is possible (though for lack of data it cannot be proved) that the break in convergence was caused by the reduction in supply of agricultural produce from the occupied territories to the Jewish sector during the *intifada*. Throughout the period prices in the Jewish market are still higher; hence, farmers from the occupied territories may have preferred selling their produce in that sector. In this case, most of the fluctuations in supply affect the Jewish rather than the Arab market. A reduction in supply may thus have raised prices in the Jewish sector. In summary, we found it impossible to attribute the 2000 break to a single factor.

All in all, the trend towards convergence between the sectors in prices dominates the decade. What were its leading causes? There is no doubt that monopolistic agricultural marketing organizations ("marketing councils") became weaker in the last twenty years. This happened both because of general trends in the economy – that is, the opening of the market to imports of agricultural goods from the occupied territories and from other countries. Furthermore, cumulative experience, by which

(with the exception of a temporary disturbance in 2000-01) almost no violence between the two sectors within Israel has occurred, may have helped to drop the barriers for consumers as well. It remains to be seen in future research whether similar trends occurred in the labor and capital (financial, physical and human) markets.

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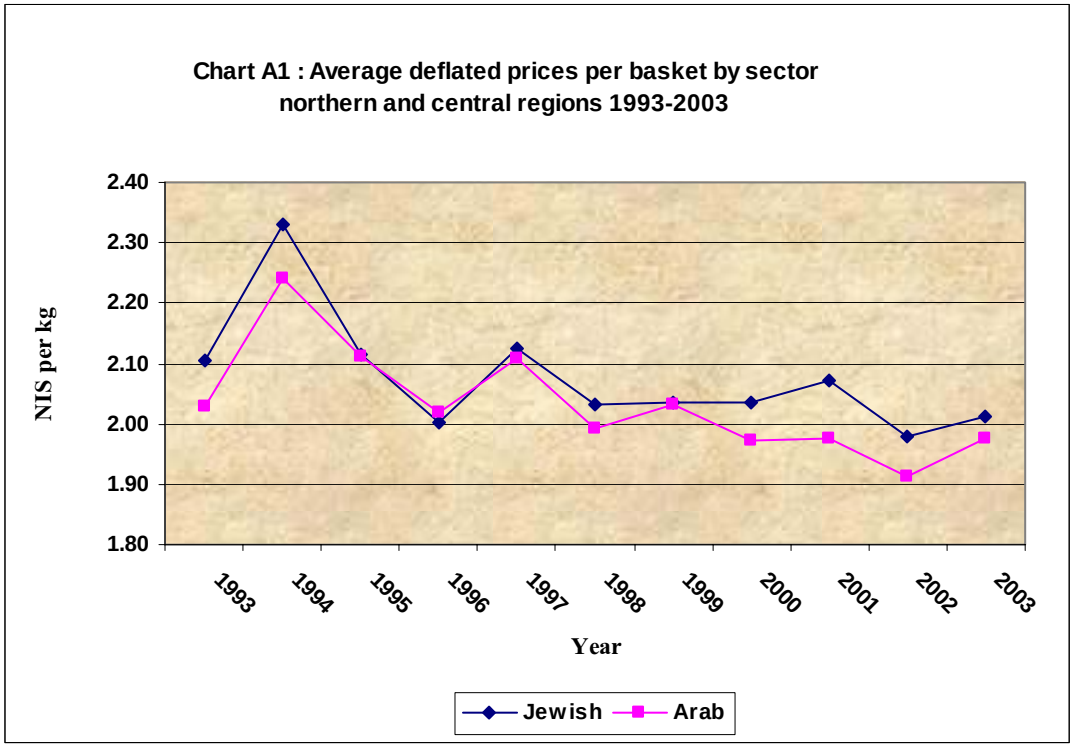
Chart A1 : Average deflated prices per basket by sector
northern and central regions 1993-2003
NIS per kg
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
Year
Jewish
Arab

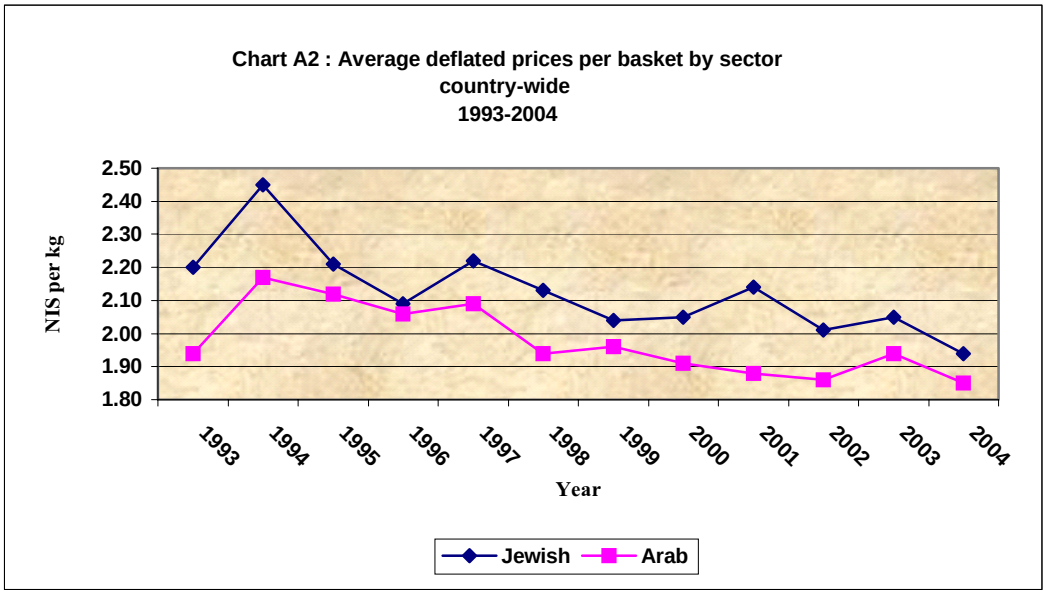
Chart A2 : Average deflated prices per basket by sector
country-wide
1993-2004
NIS per kg
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
Year
Jewish
Arab

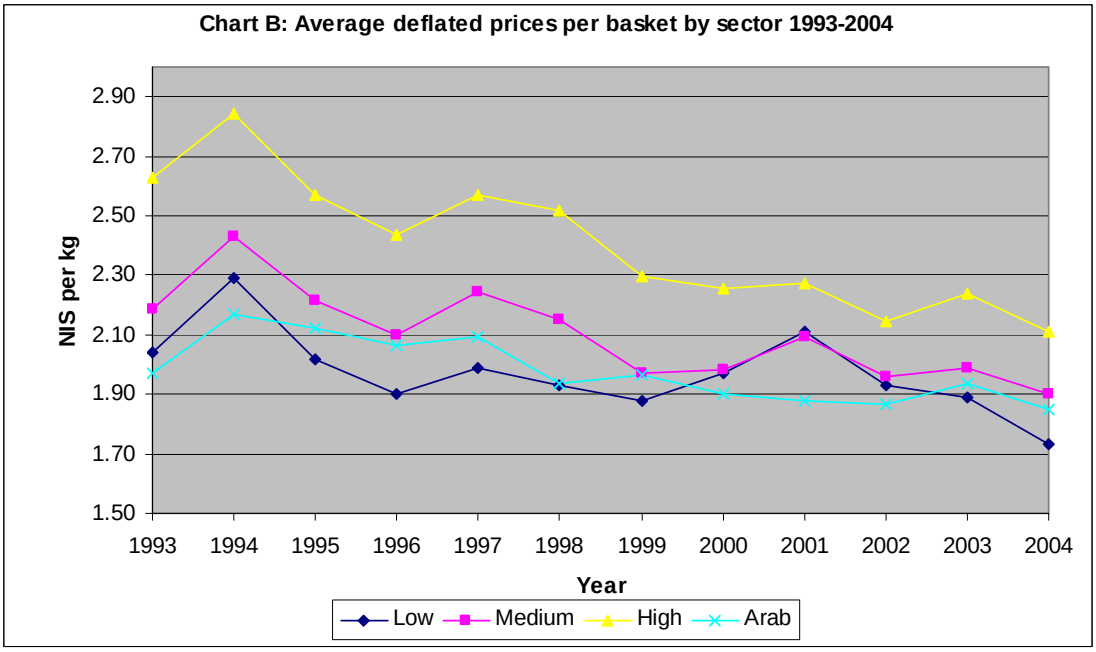

Table 1: Number of observations by items and sector (1)

Item	Jewish sector	Arab sector	Total per item
Onions	21,500	2,878	24,378
Carrots	20,413	2,526	22,939
Lemons	18,823	2,801	21,624
Cucumbers	21,513	2,798	24,311
Potatoes	20,497	2,907	23,404
Total per sector	102,746	13,910	**116,656**

(1) Two or more items in the same shop are counted as separate observations

Table 2: Average deflated (1) prices per item per kilo by sector and region 1993-2004

Item	Jewish sector			Arab sector		
	Haifa and north	**Center**	**Total**	**Haifa and north**	**Center**	**Total**
Onions	1.58	1.65	1.66	1.44	1.45	1.48
Carrots	2.01	2.15	2.15	2.08	2.01	2.12
Lemons	2.77	2.86	2.95	2.51	2.51	2.51
Cucumbers	2.10	2.08	2.12	2.34	1.88	2.23
Potatoes	1.80	1.85	1.84	1.56	1.59	1.62

(1) Deflated by CPI, January 1993=100.0 points.

Table 3: Standard deviation (STD) and coefficient of variation (CV) of deflated prices per item by sector and region 1993-2004

Item		**Jewish sector**			**Arab sector**		
		Haifa and north	Center	Total	Haifa and north	Center	Total
Onions	**STD**	0.62	0.57	0.65	0.44	0.38	0.44
	CV	0.39	0.35	0.39	0.30	0.26	0.30
Carrots	**STD**	0.56	0.57	0.62	0.44	0.44	0.42
	CV	0.28	0.26	0.29	0.21	0.22	0.20
Lemons	**STD**	1.12	1.09	1.13	0.89	0.95	0.86
	CV	0.40	0.38	0.38	0.36	0.38	0.34
Cucumbers	**STD**	0.82	0.80	0.85	0.73	0.66	0.74
	CV	0.39	0.38	0.40	0.31	0.35	0.33
Potatoes	**STD**	0.48	0.47	0.52	0.38	0.32	0.35
	CV	0.27	0.25	0.28	0.24	0.20	0.22

* STD divided by the average

Table 4: Average monthly deflated prices per kilo, by item, sector, and socio-economic status 1993-2004

Item	**Arab sector**	**Jewish sector**		
Socio-economic deciles	2,3	2,3,4	5,6,7	8,9,10
Onions	1.48	1.53	1.63	1.86
Carrots	2.12	2.02	2.08	2.44
Lemons	2.51	2.63	2.92	3.32
Cucumbers	2.23	2.00	2.08	2.37
Potatoes	*1.62*	*1.68*	*1.81*	*2.06*

Table 5: Prices per kg - Selected regression coefficients

| Israel 1993-2004

	Israel	
	regression coefficients	Pr > |t |
CONSTANT	.527	.000
LAG D-P	.658	.000
TIME	-.3.272E-04	.001
D_INCOME	4.153E-05	.000
SECTOR	-3.283E-02	0.016
SEC_TIME	3.056E-04	.030
PERIOD	-5.076E-02	.000
Number of observations	113,872	
R^2 adjusted	0.533	

Pr > |t = the probability that the coefficient is statistically <u>not</u> significant. P=0 means that the probability that the coefficient is due to mere chance is negligible.

Table 6: Monthly average real earnings: Arab/Jews

1993-2004

Year	Index of general real wage level NII	Ratio of monthly average earnings – Arabs/Jews NII	Ratio of average earnings – Arabs/Jews CBS
1993	100.0	0.731	0.750
1994	102.0	0.646	0.720
1995	103.9	0.688	0.720
1996	105.4	0.710	0.740
1997	108.1	0.685	0.720
1998	110.4	0.670	0.710
1999	113.0	0.668	0.660
2000	119.8	0.632	0.670
2001	122.8	0.664	0.700
2002	115.3	0.680	0.720
2003	111.7		0.730
1993-2004		**0.685**	**0.710**

Table 7: Prices per kg by sector - selected regression coefficients – country-wide

1993-2004

	Arabs		Jews	
	regression coefficients	Pr > |t	regression coefficients	Pr > |t
CONSTANT	.723	.000	.521	.000
LAG D-P	.570	.000	.663	.000
TIME	-1.889E-04	.421	-3.648E-04	.000
Period	-4.773E-02	.003	-4.823E-02	.000
D-income	-2.911E-05	.053	4.233E-05	.000
Adj. R2	.541		.579	
No. of observations	11,352		100,272	

Appendix A: Sources and methods of price data

As mentioned, the products chosen are potatoes, carrots, onions, cucumbers and lemons.

The source of price data is the COL index of the CBS. Data on retail prices are collected from a sample of business establishments (shops, markets, chain stores). The selection of items entering the index is based on detailed reports of households' consumption expenditures in the Household Expenditures Surveys (HES). The annual number of households in the surveys is circa 6000, i.e., 500 per month, or 250 each fortnight. The selected households write down a detailed account of purchases over two weeks. For further details, see Central Bureau of Statistics (1992).

Part of the selection of establishments is based on HES as well: in addition to the itemized expenditure reports, households report on the type of establishment (grocery store, market stall, supermarket) in which they shopped. The choice of establishments for the COL index is a stratified sample, by shop type, out of the VAT list of establishments, and some other auxiliary sources. Thus, information on the prices of the products chosen for this paper is collected from market stalls, groceries, shops specializing in fruit and vegetables, and supermarkets. It should, however, be noted that sellers who do not have an address (e.g., sellers on a weekly market day) are not represented. Nor is information available on self-grown consumption. The choice of localities is based on the size of population and the number of establishments of each type.

For each establishment included in the sample, a number of potential substitutes are chosen, for such eventualities as closing the business, change of the line of sales, or refusal to report. In our data, for cases of substitute establishments, we omit the price data on the month of transition (if a substitution occurs in month t, we omit the observation on price change between t and t-1). We also omit all cases of imputed prices: imputation occurs in cases of temporary lack of information, e.g., when, at the time of enquiry, the product is unavailable in the store.

In the regional version we focused on two regions which are densely populated by Arabs, so that the volume of sales in each sector is substantial. All the localities which are sampled in the COL survey in these regions are included. The localities chosen are:

Region A - Center

Arab settlements: Umm Al-Fahm; Taibe; Qalansawe

Jewish settlements: Hadera, Kfar Sava, Netanya, Pardes Hanna-Karkur, Rosh Ha'ayin (only in 2000-04)

Region 2 – Haifa and North

Arab settlements: Tamra, Kafr Kanna, Kafr Manda, Nazareth, Sakhnin, Arrabe, Reine (only in 2000-04), and Shfar'am

Jewish and mixed settlements: Haifa, Tiberias, Tirat Karmel (only in 1993-99) Karmi'el, Nahariya, Upper Nazareth, Acre (only in 1993-99), Afula, Qiryat Atta, Qiryat Bialik, Qiryat Yam, Qiryat Motzkin, Qiryat Shemona (only in 1993-99).