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SELF-SELECTION OF EMPLOYEES MOVING BETWEEN THE PUBLIC AND PRIVATE SECTORS

YUVAL MAZAR*

Abstract

This study examines the predictions of the theory of incentives, under which wage that is less sensitive to level of performance or skills attracts lower quality employees, while wage that is more sensitive to these factors attracts higher quality employees. The distribution of wage in the public sector in Israel is more compressed than in the private sector (the variance of wage in the public sector is less than that of the private sector). Assuming that such a distribution rewards personal skills less than the less compressed distribution in the private sector, this study examines whether, and to what degree, it deters especially productive employees from working in the public sector. The analysis is based on an examination of employees who switched from the public sector to the private sector, and those who switched from the private sector to the public sector, in 1983-1995. The results confirm the existence of negative selection among those moving from the private sector to the public sector, and positive selection, particularly among women, among those moving in the opposite direction.

1. INTRODUCTION

What is special about the public sector? According to Gregory and Borland (1999), the main factor attracting particular interest is the fact that decisions about employment and wage in the sector are taken in a political framework – unlike in the private sector, where it is assumed that decisions are subject first and foremost to maximization of profit.

In most countries – both developed and developing – the distribution of wage in the public sector is more egalitarian than in the private sector.[1] This is reflected in a more compressed wage distribution – both of conditional wage on an employee's observable characteristics and of unconditional wage – and almost certainly in a lower return on unobservable personal skills.

* Bank of Israel, Research Department. http://www.boi.org.il; E-mail: yuval.mazar@boi.org.il
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[1] Bender (1998) and Gregory and Borland (1999) cite a review of the relevant literature on the subject.

According to Abramitzky (2007), based on the theory of incentives, equal sharing pay:

1) Encourages free-riders to stay (the incentive effect);
2) Deters very capable people from joining (the selection effect).[2]

To date, there has been relatively little empirical work done concerning the selection effect, mainly because of data limitations.[3] While extensive literature exists documenting and comparing the public and private sectors, there is little evidence about the differences between the wage structures of these sectors. Many empirical findings indicate a positive wage premium for employees in the public sector, compared with the private sector, particularly for women and minorities. A large part of this study is devoted to examining the differences between the two sectors in the distribution of wage, separately for men and women, and to the question of whether these differences motivate employees to switch from one sector to another.

This study aims to contribute to the literature dealing from an empirical perspective with the question of whether, and to what degree, a sector featuring a relatively egalitarian distribution of wage deters very capable employees from working in it, and especially whether employees who forego relatively egalitarian wage arrangements, i.e. those leaving the public sector, have better skills than those remaining in it (positive selection), and whether employees switching from the private sector to the public sector have poorer skills (negative selection).

This study uses a unique data series that includes data on employees who left the public sector and employees who joined it. The data for these employees, who were classified between two population censuses, enabled me to examine the selection processes, both in leaving the public sector and entering it.

The empirical analysis in the study supports the selection hypothesis: it was found that those leaving the public sector had better skills than those remaining in it, because their unconditional wage (their residual-wage – the part of their wage independent of their observable human capital characteristics) was greater than that of similar employees who remained in the public sector, while the conditional wage of those moving from the private sector to the public sector was less than that of those remaining in the private sector. In addition, some difference between men and women was found in the selection pattern.

a. Literature Review

Borjas (2002) used figures from the 10-year census and from the regular population surveys in the US to document the differential changes that occurred in the wage structure of the public and private sectors between 1960 and 2000. He discovered that among men, the wage gap between an employee in the public sector and a similar employee in the private sector was fairly constant during this period, but declined significantly among women. He also reported that before 1970, a period when public sector employment was expanding

[2] Lazear (1986, 2000a, 2000b) highlights the selection effect in salary plans.

[3] Weiss (1987) found that among employees in pharmaceutical company, very capable people and those with lesser capabilities were more likely to leave than employees with average capabilities. Lazear (2000a) found that the average quality of employees in an auto windshield manufacturing company rose when piece rate pay was introduced.

rapidly, the variance of wage in the public sector rose, compared with the variance of wage in the private sector. The wage distribution became more compressed after 1970. He asserted that the development of the variance of the wage structure in the two sectors had an important effect on the distribution of employees between the sectors, and that the relative compression of wages in the public sector made it more and more difficult to attract and retain highly skilled employees.

Porterba & Reuben (1994) presented evidence from the US from a regression analysis of quantiles indicating that the distribution of wage among public sector employees was less scattered than among private sector employees. Kats and Kruger (1991, 1993) provided supplementary evidence showing that when a correction for the differences in the distribution of education and experience between the sectors is introduced, there is less inequality in income among public sector employees than among private sector employees. Disney & Associates (1997) performed a regression analysis of percentiles, and found that the wage premium in the public sector was inversely related to an employee's location in the wage distribution: the wage premium in the public sector was 13.1 percent for men in the 10^{th} percentile of the wage distribution and 4.3 percent for the 90^{th} percentile. The corresponding premiums for women were 27.7 percent and 2.8 percent, respectively. Blackaby (1997) broke down the parameters characterizing each quintile, and his conclusions were in the same direction.

Lucifora and Meurs (2004) examined wages in the public and private sectors using microeconomic data from France, the UK, and Italy. In contrast to the conventional methods of estimating the wage gap in the public sector, which are primarily parametric, they used both non-parametric methods and quantile regression methods to analyze the distribution of wage between the sectors. They showed that the (hourly) wage gap between the public and private sectors declined with the wage quantile, and that the behavior of the premium varied with both gender and the level of skills.

Ghinetti and Lucifora (2008) made use of microeconomic data from France, the UK, and Italy (from the 2001 European Community Household Panel – ECHP). They demonstrated a large difference in wage distribution between the public and private sectors. The wage premium for work in the public sector varied, depending on whether an employee was higher or lower in the wage distribution. In France, the UK, and Italy, the premium for wage in the public sector for employees with poorer skills was greater than for those with better skills. These trends were particularly prominent in the services sector. Additional results indicated that employees who were exogenously transferred from the public sector to the private sector suffered a loss of profit (wage) that was greater for employees with poorer skills than for those with better skills who were similar in their other characteristics. This was because employment protection was more important for those with poorer skills.

Bargian and Melly (2008) estimated the wage premium in the public sector in France in comparison with the private sector in 1990-2002, both the average and various quantiles of the wage distribution, separately for men and women. They found that the premium on wage in the public sector (for women) or the "penalties" (for men) were essentially a result of selection; after taking into account the non-observable heterogeneity, only small wage differences remained between the sectors in the long term. After subtracting differences resulting from business cycles and their different effects on wage in the two sectors, the

difference was negligible. Furthermore, the relative compression of the wage distribution in the public sector was partly a result of unobservable characteristics. These results mean that the public sector successfully attracted better employees from the private sector in the lower part of the distribution, owing to both non-monetary advantages (including job security), but was unsuccessful in retaining the most productive employees at the top. This is frequently explained by the fact that governments are less motivated by considerations of competition than entities in the private sector, and are more oriented towards justice and fairness in wage arrangements. These factors are reflected in higher than market level wage for state employees on the lower end of the scale, combined with relatively modest remuneration for those at the top.

Public sector employees located at the lower end of the income distribution scale were positively selected for this sector. At the head of the wage distribution, those with the highest wage potential (who may also be characterized by a low aversion to risk) chose the private sector. A number of findings tend to confirm these opinions. Fougere and Pouget (2003), who focused on cohorts of young employees, found that when all the observable characteristics were equal, those earning the lowest pay in the private sector were also those whose probability of being unemployed was the greatest. On the other hand, it is possible that the entry examinations for the public sector select those candidates with the highest earning potential in the private sector. Fougere and Pouget supplied additional evidence of a surplus supply of employees seeking employment in the public sector in France.

Empirical studies use situations of deregulation or privatization to generate exogenous variance in market concentration. Melly and Puhani (2008) examined the effects of privatization on wage by using series of company-based panel data at the personal level for years before and after privatization – a situation that simulates a natural trial in the movement of employees from the public to the private sector. They found significant changes in the wage distribution of the privatized company: wage distribution widened and pay rises increased significantly following privatization.

Beggs and Chapman (1988) analyzed public sector employees at the clerical level in Australia, and found that very capable employees had a relatively high probability of leaving the public sector. They attribute this finding to greater compression in the wage distribution in Australia in the public sector, compared with the private sector.

b. Studies in Israel

The following studies tested the incentive theory and its effect on migration:

Abramitzky (2007) used a series of panel data for people in Israel who joined *kibbutzim* (collective villages) and left them in order to examine whether and to what degree a relatively equal wage distribution deters especially productive people from being kibbutz members. He found evidence of negative selection in entry to a kibbutz, and positive selection in leaving it.

Gould and Moav (2007) examined the rate of emigration from Israel in 1995-2004, and found that the probability of migration from Israel was 2.5 times as great among those with more education than among those with less. They noted that the group with the highest

migration rate in Israel was senior staff at academic institutions – higher than that of doctors, engineers, and all other professions.

Gould and Moav (2008) examined the effect of inequality on the incentive to migrate from Israel to the US (in 1995-2004) according to the observable and unobservable characteristics of men working in Israel. They distinguished between general skills, which can be easily transferred, and specific skills, which are more difficult to transfer. They found a non-monotonic U-shaped connection between an employee's skills, as defined by his residual-wage, and the probability of emigration, and a positive connection between an employee's education and the probability of his emigration.

The following studies analyzed the differences in wage distribution between the public and private sectors:

Shalev (2007, unpublished) and Krauss (1992) found that the proportion of women was higher in the public sector than in the private sector. They explained this by a lower rate of wage discrimination and greater availability of part-time positions.

Cardoso and colleagues (2007) used a special series of data spread over eight years that included figures from the population census and the National Insurance Institute to examine and compare patterns of wage mobility in Israel. Their main finding was that a negative connection existed between the degree of wage mobility and the level of concentration in a sector: wage mobility was significantly higher in the private sector than in the public sector.

The rest of this study is ordered as follows: Chapter 2 presents the theoretical framework, based on the selection hypothesis of Borjas (1987). Chapter 3 describes the method and lists the study's critical assumption and hypotheses. Chapter 4 describes the environment and sources of data in the analysis. Chapter 5 presents a statistical description of the data. Chapter 6 tests the hypothesis that those moving from the public to the private sector or from the private to the public sector are positively/negatively selected, in comparison with those remaining. The empirical chapter also examines the differences in selection patterns according to gender and educational level. Chapter 7 discusses criticism of the theoretical model and the empirical results. Chapter 8 summarizes the study.

2. THE BASIC THEORETICAL FRAMEWORK

The theoretical prediction that a relatively compressed wage distribution deters very capable employees is simple: it is reasonable for very capable employees to be attracted to employment offering pay for skills, while employees with poor capabilities will be attracted to a wage based on a rank scale (a more egalitarian distribution). The theoretical framework in this chapter is designed to demonstrate how the classic migration model can be applied in a context of employees' selection to and from workplaces in which wage distribution is more egalitarian.

We assume that employees in the public sector (denoted by a subscript 0) choose whether or not to move to the private sector (denoted by a subscript 1). We also assume that wage inequality prevails in the market:

$$W_i = Int_i + \delta_i S$$
$$[1] \quad i = 0,1$$
$$\delta_0 < \delta_1, Int_0 > Int_1$$

where S is the level of skill (aptitude or capability, not the formal level – education, for example), and δ_i is the return on this skill. This means that the public sector pays more for observable formal qualifications, while the private sector pays more for non-formal skills. W_i, the employees' utility, equals the logarithm of their wage.[4]

I focus mainly on the selection of the employees moving from one sector to another according to characteristics that the researcher cannot observe (residual-wage) that are linked to higher wages. This means that the intersect in Equation [1] includes all the employees' observable skills (the observable human capital) – education, experience, etc. The theory of incentives predicts that public sector employees will switch to the private sector whenever:

$$[2] \quad W_1 = Int_1 + \delta_1 S > Int_0 + \delta_0 S = W_0 .$$

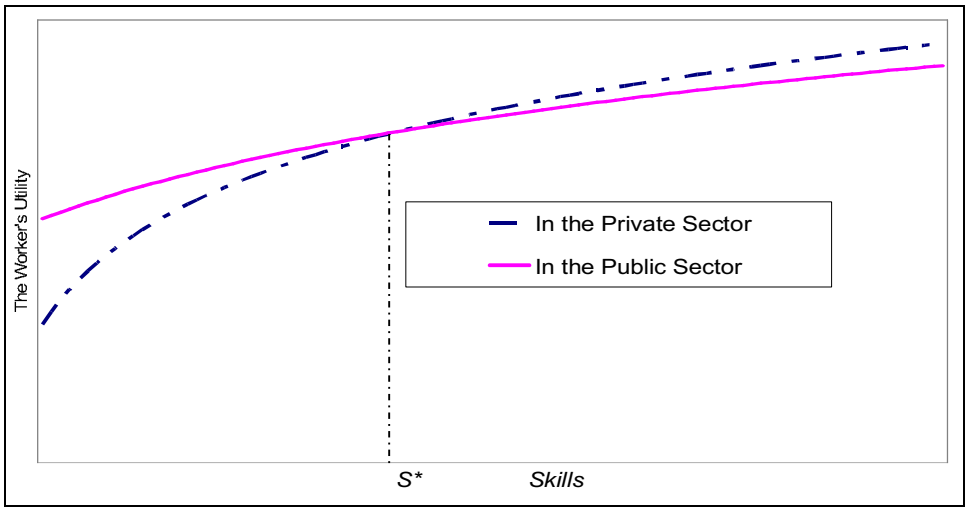
Equation [2] defines a threshold level of skills, S^*, above which employees will switch to the private sector. We therefore expect those moving from the public to the private sector to be positively selected from the employees in the public sector. This is highlighted in Figure 1, which displays the prediction that employees with a level of skills lower than S^* will remain in the public sector, and employees with a level of skills higher than S^* will switch to the private sector.

The movement from the private to the public sector can be described in similar fashion. Since the public sector offers lower returns on non-formal skills and more equality in wage, we expect that those switching to it from the private sector to be chosen from the private sector employees through negative selection. In this situation, however, it is possible that employers in the public sector are aware of the tendency of employees with poorer skills to try to enter the sector, and do not accept applicants with a lower level of (observable) skills than a given value. At the same time, it is possible that some people have private information about their skills (information that the employers cannot observe), so that they are accepted for work even if this information indicates a level of skills lower than the threshold value (adverse selection). Because the figures used in the current study link the employees' wage before they leave and skills that were unobservable or not detected by the public sector employer, they could moderate this problem.

[4] Without derogating from generality, any utility function can be assumed, provided that it increases with the employees' salary at a non-increasing rate, i.e. that the employees are risk averse or indifferent to risk.

Figure 1

The Utility (Logarithm of Wage) of Employees Compared with Their Qualifications in the Private and Public Sectors



3. METHODOLOGY

In order to examine the selection of the motive for leaving, I used a number of probit regressions for employees employed in the public sector in 1983, and an additional series of regressions for employees employed in the private sector in 1983. A variable, D_i, was defined, receiving the value 1 if the employee switched sectors in 1983-95, and the value 0 if the employee remained in the same sector in which he worked in 1983:[5]

$$[3] \quad \Pr\left(D_i = 1 \middle| X_i, \tau_i\right) = \Phi\left(X_i'\lambda_1 + \hat{S}_i\lambda_2 + \upsilon_i\right)$$

The variable of interest is the capabilities or skills of employee S_i that is not explained by his observable human capital. The problem is that this variable is also econometrically unobservable.

In order to attempt to solve this problem, it is possible to consider a standard Mincer wage regression, whose residuals are positively correlated with the employees' skills that are unobservable (but observable by his current employer). In other words, **the unexplained part of the employees' wage, S_i, is used as an estimate for approximating S_i, their unobserved skills**. The key econometric test checks whether these residuals are

[5] This is a limited form of the employees' decisions whether to stay or to leave. We assume that the employee's utility resulting from a change from sector D_i* equals $W_1 - W_0$ if the employee worked in the public sector in the base year, and equals $W_0 - W_1$ if the employee worked in the private sector in the base year. The employee will change sector if and only if D_i*, which is unobservable, is greater than 0.

correlated with the employees' change of sectors, and what direction and magnitude this correlation has.

For the sake of emphasis, the logarithm of the employee's wage is a function of his observable and unobservable (by the researcher) characteristics:

$$[4] \quad W_i = \beta' X_i + S_i$$

Where $\beta' X_i$ represents the intersect in Equation 1. The residual-wage as defined in [4] is the gap between the employee's observable wage and his expected wage. In this study, we assume that it represents the employee's non-formal skills. The expected wage is derived from ordinary Mincer regressions using the OLS method separately for each sector and each gender. It therefore follows, due to the characteristics of OLS regression, that the expectation of S_i equals 0, a characteristic that does not detract from the generality. In summary, the decision to leave [3] is explained by X_i, an individual's observable characteristics, and S_i, his non-formal skills.

The hypotheses are: (following the theory presented in part 2)

Positive selection (for employees in the public sector): $\lambda_2 > 0$

Negative selection (for employees in the private sector): $\lambda_2 < 0$

4. THE DATA

The data series used here is a representative random sample of people in the Israel population censuses of 1983 and 1995. The figures for those people were classified (by the Central Bureau of Statistics) on the basis of their ID cards. The data include all Israeli citizens who answered the extended questionnaire in both of these years. In each of the population censuses, the questionnaire was given to 20 percent of households representative of the general population. The classified sample therefore represents four percent of Israeli employees. The population census is the most comprehensive source of demographic and socioeconomic data for the Israeli population. The data series identifies employees working in the public and private sectors according to their economic sector (a uniform classification of economic sectors at the two-digit level).

For purposes of this study, four main sub-samples were created:

(I) Employees working in the public sector in 1983 who remained in that sector in 1995;

(II) Employees working in the public sector in 1983 who were employed in the private sector in 1995;

(III) Employees working in the private sector in 1983 who remained in that sector in 1995;

(IV) Employees working in the private sector in 1983 who were employed in the public sector in 1995.

These samples make it possible to compare those who moved from the public to the private sector with employees in the public sector who remained in it, and employees who

moved from the private to the public sector with employees who remained in it, i.e., to examine the selection upon leaving.[6]

In order to give meaning to these comparisons, the study focuses on people aged 25-45 in 1983 (and who were therefore aged 37-57 in 1995) who worked at least 20 hours per week in 1983. The sample does not include people serving in the permanent army or self-employed persons.

5. DESCRIPTIVE STATISTICS

Table 1 includes the average and standard deviation of the principal characteristics used throughout the study for all the employees in both sectors in 1983.

A number of facts are obvious: men constitute a large majority in the private sector, while in the public sector men and women each constitute about half of the number of employees. This is almost certainly because men's wage premium and number of working hours were lower in the public sector. The average number of years of schooling was higher in the public sector. The monthly wage was the same in the private sector and the public sector, but the hourly wage in the private sector was lower, because the number of weekly

Table 1
Descriptive Statistics*

Gender			Men	Men	Women	Women
Sector	Public	Private	Public	Private	Public	Private
Observations	5,098	7,296	2,469	5,167	2,629	2,129
Monthly wage	3,027	3,140	3,740	3,520	2,357	2,218
Standard deviation	1,825	2,033	1,963	2,112	1,382	1,464
Work hours	40.6	44.6	46.5	47.5	35.0	37.6
Hourly wage	17.41	16.00	18.81	17.03	16.10	13.54
Standard deviation	10.24	10.06	10.45	10.52	9.86	8.39
Age	33.9	32.9	33.9	33.1	33.9	32.6
Years of education	13.4	11.4	13.3	11.3	13.5	11.8
Skilled employee	0.30	0.22	0.42	0.31	0.22	0.10
Jewish	0.93	0.89	0.88	0.86	0.97	0.99
New immigrant	0.05	0.04	0.04	0.04	0.05	0.06
Native-born Israeli	0.54	0.55	0.55	0.56	0.53	0.51
Family size	4.1	4.2	4.2	4.4	4.0	3.9
No. of wage earners	1.8	1.7	1.7	1.6	2.0	2.0
No. of weeks in year	50.2	49.8	50.8	50.4	49.7	48.5
Part-time job	0.28	0.12	0.11	0.05	0.44	0.31
Married	0.86	0.87	0.89	0.89	0.83	0.81
Women	0.52	0.29				

* "Work hours" is the number of working hours per week; a "skilled employee" is an academic or one engaged in management; "wage earners" are the number of wage earners in the household, and "part-time job" is a dummy variable for employees who stated that they worked less than 35 hours a week.

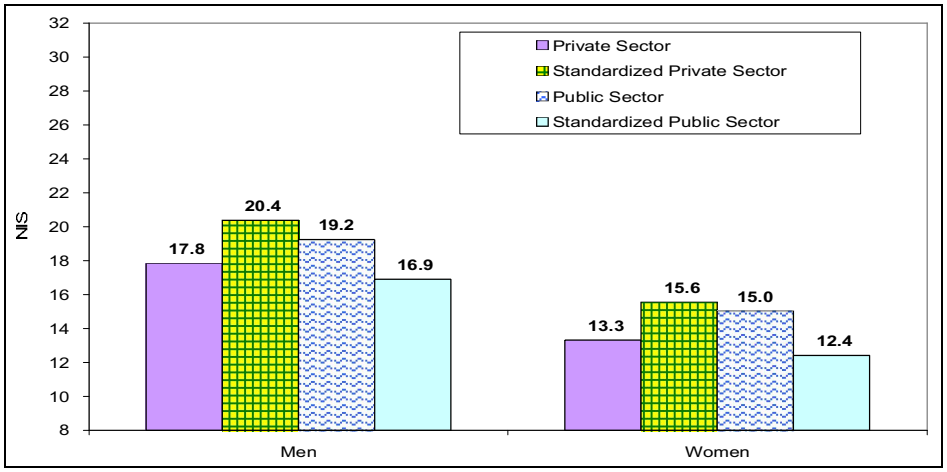
[6] It is important to emphasize that I did not examine the selection upon entry: I did not compare employees who entered the public sector with employees already employed in it at the same time, nor did I compare employees who entered the private sector with those already employed in it at that time.

working hours was greater. There were fewer part-time jobs in the private sector. It should be noted that when the part-time employees are excluded from the analysis, the difference between the sectors in weekly working hours becomes negligible. These phenomena, particularly the difference between the sectors in the hourly wage,[7] exist in many developed countries.

Figure A.1 in the appendix displays the distribution of 10 major occupational groups in the public and private sectors separately for women and men. It can be concluded that although the distributions differ widely, they share a common area in which employees – academics, for example – can move from one sector to another without changing their occupations.

Figure A.2 in the appendix (for 1983) describes the hourly wage and the standardized hourly wage in each sector separately for men and women. The standardized wage was calculated by multiplying the characteristics of the employees in one sector by the rates of return on those characteristics in the other sector - the parameters (Oaxaca decomposition, 1973). The rates of return in each sector were calculated separately for men and women using Mincer wage regressions (the control variables were years of schooling, age, age squared, religion, emigration, marital status, family size, number of breadwinners, number of weekly work hours, and number of weeks worked per year). The data show that although the simple average of the hourly wage is lower than in the private sector for both men and women, the standardized wage in this sector is higher. This is particularly noticeable among men, academics, and scientists, and in management professions. These findings indicate that the average rate of return on observable characteristics is higher in the private sector;

Figure 2
The Hourly Wage in Each Sector in 1983



[7] For example, Rees and Shah (1995) reported a positive wage gap in the UK in favor of the public sector, on the average, for both women and men: 22-26 percent for women, and 10-11.5 percent for men in 1983-87 – see Note 1.

an employee in the private sector will receive a higher wage than an employee in the public sector with similar statistical characteristics. Note that the picture was different in 1995;[8] the adjusted wage was lower in the private sector, except in the scientific and academic professions (the data can be obtained from the author).

Table 2 displays the matrix of movement in the sample

Table 2
Matrix of Movement

All Employees	In the Private Sector (1995)	In the Public Sector (1995)	Total
In the private sector (1983)	7,154	919	8,073
	(89%)	(11%)	(100%)
In the public sector (1983)	1,576	4,086	5,662
	(28%)	(72%)	(100%)
Total	8,730	5,005	13,735
Men			
In the private sector (1983)	5,224	454	5,678
	(92%)	(8%)	(100%)
In the public sector (1983)	1,067	1,622	2,714
	(40%)	(60%)	(100%)
Total	6,316	2,076	8,392
Women			
In the private sector (1983)	1,930	465	2,395
	(81%)	(19%)	(100%)
In the public sector (1983)	484	2,464	3,883
	(16%)	(84%)	(100%)
Total	2,414	2,929	5,343

A number of facts can be distinguished: 18 percent of the employees switched from the public to the private sector or from the private to the public sector during the period of the study. Most of those who moved went from the public to the private sector. Men tended to switch sectors more than women (18.4 percent and 17.7 percent, respectively), but the directions were different: men tended to leave the public sector for the private sector, while women tended to move in the opposite direction.

The main assumption cited in the theoretical section is that the public sector gives employees with poorer skills greater rewards than the private sector, while the private sector gives employees with better skills greater rewards than the public sector, as described in Figure 1. The usual way to test this assumption is using quantile regression (QRM). Additional statistical data are the squares of the average errors (MSEs, here – from the Mincer regressions), or the difference in monthly wage between the 10^{th} and 90^{th} percentile. As described in Figure A.2, the MSEs were higher (the residuals less compressed) among both men and women working in the private sector. In 1983 (Figure

[8] This is because generous wage agreements were signed in the public sector in 1993 and 1994, resulting in increases in real wages of 30-50 percent in various professions in this sector.

A.3), the ratio the 10th and 90th percentile for men in the private sector was 4.9, compared with 4.2 in the public sector. For women in 1983, the ratio in the private sector was 5.5, compared with 4.8 in the public sector. Testing the difference in hourly wage between the 10th and 90th percentiles gave the same result.[9]

Due to the differences between the sectors in distribution and dispersal of wage, a number of studies have criticized the usual approach, which is based solely on an analysis of the average conditional wage. The use of quantile regression (QRM)[10] makes it possible to analyze the entire wage distribution, but the marginal effect of the independent variables on the dependent variable is liable to differ at various points of the wage distribution. These results can also be interpreted as the effect of the different distribution of unobservable wage factors for a given series of employees' characteristics at various points of the wage distribution. The analytical framework for estimation selected here is based on the QRM method developed by Koenker and Basset (1978), and applied in the context of wage equations by Chamberlain (1994), Poterba and Reuben (1994), and Buchinsky (1994, 1997). For the US, Poterba and Reuben (1994) reported evidence that the wage distribution in the public sector is much less dispersed. They proposed alternative methods of analyzing the wage differences based on QRM. Mueller (1998) broke down the wage differences in a number of quantiles of densities, applied to employees in the public and private sectors in Canada. For the UK, both Blackaby and Associates (1999) and Disney and Gosling (1998) showed that the wage difference in the public sector varies throughout the distribution, with the largest difference being between the lowest and highest quantiles. For Germany, Melly (2002) also found that a difference in the wage gap in favor of the public sector was monotonically lower when moving to the right in the wage distribution.

In order to test the effects of differences in characteristics on the wage gap in the public sector at various points of the distribution, I ran a series of QRM regressions on the common database. Running regressions on the joint database requires identical returns on the observable characteristics in the two sectors, so that the differences between the public and private sectors are dependent solely on the dummy factor. The dummy estimated for the public sector therefore reflects the unexplained part of the wage gap in the private sector in the various quantiles, after the personal characteristics, gender, and the features of the job have been taken into account.

In order to ensure a meaningful comparison, it must be verified that there are enough employees in each decile in both sectors. Figure A.4 indicates that this requirement is fulfilled. Figure 3 displays estimates of the wage gaps between the public and private sectors in each decile of the wage distribution. The series of results indicates that the premium in the public sector decreases throughout the wage distribution for both men and

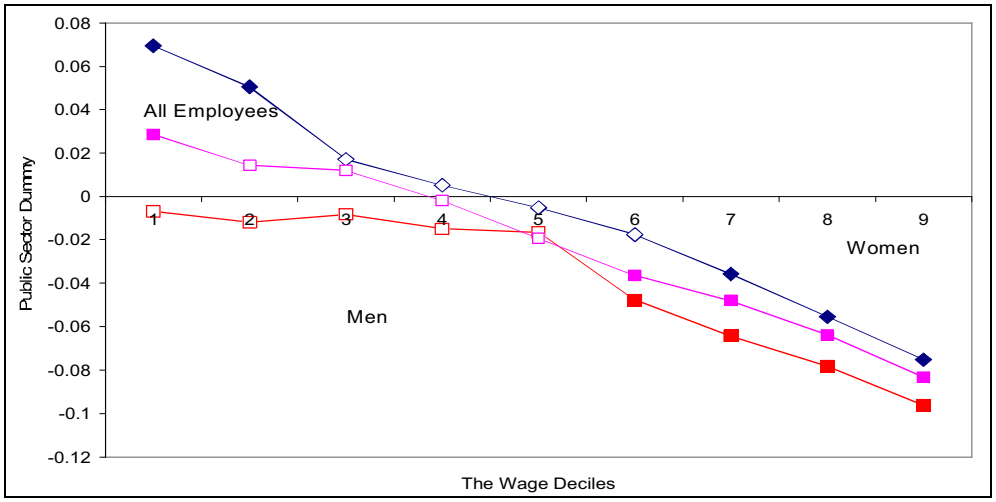
[9] We note also that in two-year income surveys for each sector after 1995, it was found that the difference in monthly salary between the 10th and 90th percentiles in the private sector was greater than in the public sector, especially among men.

[10] The standard regression technique (OLS) is based on estimation of the contingent average of a given result y (the logarithm of the salary, for example) as a linear function of personal characteristics (for example, a vector X and a dummy variable – PUB - for the public sector). $E(y/X) = X^T\beta + Public\ \delta$. Instead of the average, the QRM method assumes that the q[th] quantile of the contingent salary distribution is a linear function of the employee's characteristics: $Q^q(y/X) = X^T\beta + Public\ \delta^q$ (Ghinetti and Lucifora, 2008).

women. For women, the public premium is positive in the lower deciles, while the premium at the head of the distribution for men is large and negative. It therefore follows that when the return on observable skills is equal in the two sectors, women at the bottom of the wage distribution in the public sector are rewarded better than women at the head of the wage distribution. Among men, the situation of those employed in the private sector was better than that of those employed in the public sector, except for the lowest four deciles, and their wage rose with the wage decile, compared with those employed in the public sector. These findings confirm the claim that focusing solely on the average wage does not give a complete picture. Although the effects of unobservable skills on wage vary over the wage distribution, the negative slope of the wage premium in the public sector, displayed in Figure 3, for both men and women, indicates that the difference between wage in the private sector and the alternative wage in the public sector is greater for employees with better skills (reflected, as stated above, by the employees' residuals-wage), meaning that the option of switching to the private sector becomes more attractive.

Furthermore, as can been seen in the graph, the premium in the public sector is much lower for men than for women with similar characteristics. In other words, this evidence means that where wage differences between women and men are concerned, it is more worthwhile for women to remain in the public sector than for men.[11]

Figure 3
Estimates of the Wage Gap Using QRM Regressions



The level of the public sector, the dummy variable, is the premium on the logarithm of the wage in the public sector, in comparison with the private sector, where the other observable individual variables are controlled. The filled-in points denote the significance of the results at a level of at least five percent.

[11] Similar results were observed in France, Italy, and the UK – see Lucifora, Meurs (2004), pp. 11-14.

The question arises why, in the event that even though both sectors reward observable skills to the same degree (or to an even greater extent in the private sector – Figure 2), and unobservable skills are better rewarded in the private sector, some people nevertheless prefer to work in the public sector. The answer is that employees in the public sector enjoy social benefits (Burgess, 2003; Simon et al, 2008) – such as longer vacations and better pension plans – that are superior to those granted to employees in the private sector. In many cases, they have more job satisfaction, and perhaps most important of all, they have more job security (employment protection legislation – EPL). Risk-averse employees prefer working in this sector, given equal pay in the two sectors. It is possible to express these factors in our model using the intersect, which is greater for employees in the public sector than for employees in the private sector (Equation [2] in the third section). The differences between the sectors in returns on unobservable skills counteract this effect, and in some cases, mainly at the top of the wage distribution, are likely to offset it completely, and even provide compensation that exceeds it.

6. RESULTS

Table 3 displays the difference in unconditional wage between those leaving and those staying.

Table 3
A "Naïve" Analysis of Movement from the Private to the Public Sector

	From the Private to the Public Sector	Gender	No. of Observations	Monthly Wage	Hourly Wage
	0	Women	1,726	2,316	14.0
	1	Women	403	1,799	11.5
Percentage				78	82
	0	Men	4,760	3,551	17.2
	1	Men	407	3,150	15.3
Percentage				89	89

Movement from the Public to the Private Sector

	From the Public to the Private Sector	Gender	No. of Observations	Monthly Wage	Hourly Wage
	0	Women	2,213	2,341	16.2
	1	Women	416	2,443	15.5
Percentage				104	96
	0	Men	1,478	3,754	19.2
	1	Men	991	3,718	18.3
Percentage				99	95

The table shows that women who left the private sector earned on the average 20 percent less than those who remained in it, while the wage of women who left the public sector was higher than those who remained in it. The findings for men were similar in

direction, but the negative selection among them (according to a naïve examination) was weaker.

Tables A.1 to A.4 display the results of 12 probit regressions (three regressions in each table) for those employed in the public and private sectors in 1983. The differences between the regressions were in the definitions of the employees' wage – monthly wage (Tables A.1 and A.3) or hourly wage (Tables A.2 and A.4) – and in the definitions of the employees' sector in 1983: the public sector in Tables A.1 and A.2 and the private sector in Tables A.3 and A.4. Each table displays separate regressions for men and women, and for both genders combined.

Besides the variable of particular interest to us – the unexplained part of the employee's wage[12] - the regressions take into account gender, age, education as of 1983 (years of schooling), a dummy variable for a new immigrant, religion, weekly work hours, work weeks per year, family size, number of breadwinners in the family, a dummy variable for part-time work in 1983 (less than 35 hours per week), and a dummy variable for marital status and occupation: nine dummy variables were presented, one for each professional group, and the control group was unskilled employees.

a. Moving from the public to the private sector

Before testing the variables of particular interest, we will briefly review the other parameters.

The joint regression analysis for both genders (Column 1, Table A.1) shows that among women, in comparison with men, the probability of moving from the public to the private sector was 17 percent less than the probability among men with identical individual characteristics.[13] Among Jewish employees, the probability of this switch was eight percent higher (men 11 percent and women 8 percent) than among members of the other religions. Estimates for immigrants, native-born Israelis (five percent higher for men) and married persons were all found to be not significant. Perhaps surprisingly, the age of the employees was also found to be not significant. The reason is almost certainly that the exact date of leaving the sector is unknown. An additional year of study reduced the probability of leaving the public sector by 0.8 percent (1.2 percent among men and not significant among women). The effect of an additional person in the family was a 1.3 percent drop (1.7 percent among men and 1.5 percent among women). The number of breadwinners in a household reduces the probability of leaving the public sector by 2.7 percent, and the effect of an additional week of work during the preceding year was negative, but very small. The probability of men employed in an academic occupation leaving the public sector was 23 percent less than that of unskilled employees; among women, the effect was not significant. The probability of male managers leaving the public sector was 10 percent less than that of men in unskilled jobs. The probability of people working less than 35 hours per week

[12] The salary residual is the difference between the employee's observed salary and his expected salary. The expected salary is derived from ordinary Mincer regressions using the OLS method separately for each sector and gender, as described extensively in the chapter on methodologies.

[13] Henceforth, by definition of the regression, every conclusion drawn from the regression equations assumes that the other characteristics are identical.

leaving the public sector was 13 percent less than others (men 15 percent and women 9 percent).

An analysis of the parameters of particular interest concerning the decision whether to leave the public sector and enter the private sector shows that the greater the unexplained wage of employees in the public sector, the more they tend to leave public sector and move to the private sector. This means that employees who left the public sector were positively selected according to their skills. This result is consistent with the theoretical model. Looking separately at each gender shows that the positive selection was characteristic mainly of women who worked in the public sector and switched to the private sector. Among men only, this parameter was not found to be significantly different from zero under the current specification. To sum up, the greater sensitivity to unobservable skills in the private sector almost certainly leads to a positive selection in the movement of employees from the public to the private sector.

Table A.2 describes the results when the employees' wage is the hourly wage. As reflected in the table, the main results of these regressions, particularly elasticity of the variable of interest, have the same sign and are of the same magnitude. The meaning in this case is again identical: the employees who left the public sector, especially women, were positively selected.

The same regressions were analyzed for employees who changed their occupational group during the period, and for employees who did not change their occupational group. The complete results can be obtained from the author. Most of the results support the principal finding, according to which employees who left the public for the private sector were positively selected, especially employees who changed their occupations during the period; in this case, men's residuals-wage were also found to be significant and positive.

b. Robustness tests

A number of tests were conducted in order to assess the validity and sensitivity of the results (the complete results can be obtained from the author).

The first test was to divide the samples into employees who earned less and more than the median of the monthly wage. Each median was calculated separately for women and men, and for both combined. For men, women, and both of them, the coefficients of the residuals-wage were not significant for employees earning less than the median, and positive and significant for employees earning more than the median. This means that the positive selection of employees who left the public sector was particularly strong among employees with higher salaries from among the employees who worked in the public sector.

The second test was for part-time work: the results indicate that the residual-wage coefficients were still significant and with the same sign, as long as the employees in question worked at least 35 hours per week in 1983.

The third test was for age: the results show that when the population is composed of relatively young employees (age below 35 in 1983), the coefficients were not significant. This means that no positive selection was observed in the population composed solely of young people; the fact that the signs of the estimate of the general population and the

restricted population were the same hints that the small number of observations was the main cause of the lack of significance of the variable of interest.

The final test concerned the effect of education. When the population was composed solely of academic employees (over 14 years of schooling), the signs of the effect were the same, but the results were not significant.

c. Moving from the private to the public sector

A short review of the less interesting parameters:

A joint regression analysis for men and women (Column 1 in Table A.3) shows that among women, the probability of moving from the private to the public sector was eight percent higher than among men. The probability of a married employee leaving the private sector was two percent lower than the probability of an unmarried employee leaving. There was no difference in estimation between immigrants and native-born Israelis. The effects of family size, years of education, and an additional breadwinner in the family were also found to be not significant. Among academic employees, the probability of this switch was 4.5 percent higher than the probability of a switch by unskilled employees. As with managers in the public sector, the probability that a manager in the private sector will move to the public sector was four percent less than the probability of this switch by unskilled employees (3.5 percent among men). Each additional year of age reduced the probability of a switch by two percent.

An analysis of the decision whether to leave the private for the public sector shows that in contrast to the sign for the opposite switch, the effect of employees' skills was negative, essentially expressing the decision to leave the public sector. According to Column 1 in Table A.3, the strong significance of the coefficients and their negative signs show that an increase in the residual-wage of employees reduces their tendency to leave the private for the public sector. The result is consistent with the theoretical hypothesis of negative selection in leaving the private sector. A glance at each gender separately shows that the effect of the residual-wage is negative for both men and women, and extremely significant for each specification; the slope is steeper for women – more than double in absolute values – meaning that the negative selection in leaving the private sector is greater among women.

Table A.4 describes the results for the hourly wage. This specification supports the previous specific result of negative selection of those leaving the private sector, and the coefficients of the employees' residuals-wages remain significant, especially among women. To sum up: the greater sensitivity to unobservable skills in the private sector almost certainly leads to negative selection among employees moving from the private to the public sector.

As in the previous analysis, the same regressions were analyzed for employees who changed their occupational group during the period, and for employees who did not (the complete results are available from the author). The results strongly support the main finding that employees who left the private for the public sector were negatively selected, whether or not they changed profession.

d. Robustness tests

The same tests (as in the switch from the public to the private sector) were conducted in order to assess the validity and sensitivity of the results (the complete results are available from the author).

Dividing by wage level: the results strengthen the previous specification - for men, women, and both of them together, the residual-wage coefficients were negative when the employees in the analysis earned less than the wage median, and even more strongly negative (in absolute values) when the employees in the analysis earned more than the wage median. In other words, the elasticity of the residual-wage was greater for employees earning higher salaries; the negative selection in the switch becomes stronger as the employees' wage rises.

The second test was for part-time employment: the results show that the wage coefficients of employees were still significant and with the same sign when the employees in the sample worked full-time in 1983, i.e., no less than 35 hours per week, for both women and men.

The third test was for the employees' age: the results show that for the population composed of younger employees (age below 35 in 1983), the parameters were close to those of the general population. This means that no selection effect exists connecting the employees' ages when leaving the private sector.

The final test was for the effect of education. When the population included only employees with more than 14 years of schooling, the signs of the coefficients were the same, but the coefficients were larger (in absolute values). This means that the negative selection in leaving the private sector becomes stronger when the level of education rises.

7. DISCUSSION

Several criticisms of the theoretical model and a number of problems with the database are discussed in this chapter.

We will begin with several weak points of the database:

1. The number of observations is small. The sample includes only employees who worked in both 1983 and 1995. For this reason, the analysis is a study at the macro level; an analysis at the micro level to test whether selection is in a particular occupation, such as teaching or medicine, is impossible, due to the relatively small number of observations. For the time being, these are the best data for the goals of the study.
2. The definition of the sector in which the employees work is not single valued. As a result, there is a small number of errors: some employees are counted as public sector employees when they are actually in the private sector, and vice versa. Typical examples are taken from the teaching and medical sectors – a small percentage of the teachers or physicians are employed in the private sector. Although their number is small, we should take them into account.

3. The hyperinflation prevailing in Israel in 1983-85 (over 150 percent annual inflation in 1983) is liable to cause a mistake in calculating the real wage in 1983, especially if the employees were sampled in different months of the year. This problem is minimal, because the nominal wage of each employee is calculated as the average of his wage in the last three months.

4. In Israel, as in the rest of the world, employment in the public sector can be regarded as a type of investment in human capital, or as a type of signal to the market. For example, it is possible that in Israel, a job in the Ministry of Finance, especially in the budget department, gives employees in the private sector a sign of the employee's high quality. This fact strengthens the positive selection in the model, according to which high-quality employees tend to leave the public sector, and it is difficult for this sector to retain them. Control of the employees' age in the regressions, and the separate tests for the age groups, weaken the assertion that the accumulated human capital is the main explanation of the observed positive selection.

Criticism of the theoretical model:

The main criticism of the theoretical model is that in contrast to the selection test of immigrants in the immigration model, who do not select in which country they are born, the employees initially choose where to work – in the public sector or in the private sector. The decision where to work at the beginning of a career is exogenous, and the initial allocation between the sectors is therefore not random.

Two claims contradict this assertion:

The first and most important claim is that selection of the employees is tested here in comparison with their colleagues working in the same sector. I do not compare employees who left the public sector with employees employed in the private sector – I only compare them with those remaining in the public sector. The same approach is applied for employees who left the private sector.

The second claim concerns the following assertion: if an employee has high or low general skills, why did he decide initially to work in the public or private sector? The answer is obtained by using simple models of search and matching, learning and signaling. All these theories are based on a single key main idea according to which employees can also increase their wage during their careers by changing their workplaces, even if their choice when they took their initial steps in the labor market was rational; this is possible because players in the labor market do not possess complete information.

The search theory (Burdett and Mortensen, 1986, Mortensen and Pissarides, 1999) is based on the fact that the information in the market is incomplete – a situation that leads to natural (frictional) unemployment, because employees looking for work do not fill the available positions immediately. Matching theory (Jovanovic, 1979; Eckstein, 1995; and Pissarides, 2000) states that not all employer-employee pairs are optimal; during the course of their careers, employees change their workplaces, and employers replace their employees, in order to improve their matching. According to the learning model (Jovanovic, 1984; Mortensen, 1988), at the beginning of labor relations, neither the employees themselves nor their employers possess complete information about their real skills, but their information improves with time when the employees' performance is observed. The last model is the signaling model (e.g., Spence, 1973; Wolpin, 1977; Weiss, 1984), which indicates that

employers use certain observable characteristics or achievements in order to improve their evaluation of an employee's real skills. For example, employees who are promoted more rapidly in their current workplace are those who send a better signal to other potential employers. As a result, the number of their job offers rises, and the probability that they will change their place of employment is likely to be higher.

8. SUMMARY

This study examines the selection effect in the movement of employees from one sector to another in the distribution of wage. Panel data of employees who moved from the public to the private sector and in the opposite direction were used in order to test the predictions.

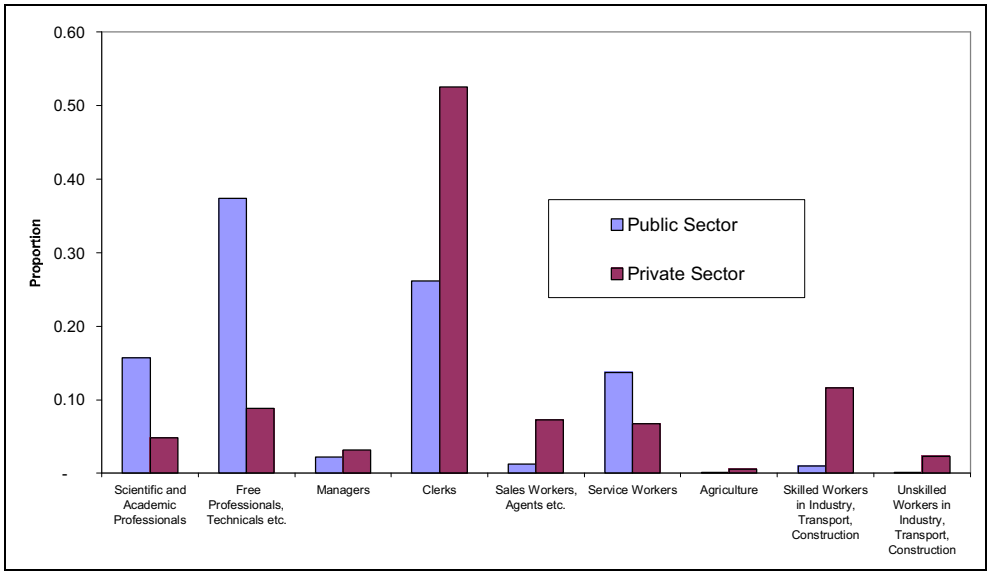
The findings support the hypothesis of the existence of positive selection in leaving the public sector and negative selection in leaving the private sector: employees who moved to the public sector from an environment with relatively large rewards for unobservable skills were negatively selected, and employees who moved to the private sector from an environment with poorer rewards for skills were positively selected. In addition, slightly different selection patterns for men and women were observed.

The selection effects found in this study support to some degree the hypothesis of Borjas (1987) that selection (positive and negative) depends on an absence of relative equality between the previous work place and the destination.

Appendix

Figure A.1: Frequency of Occupations in the Public and Private Sectors

Women



Men

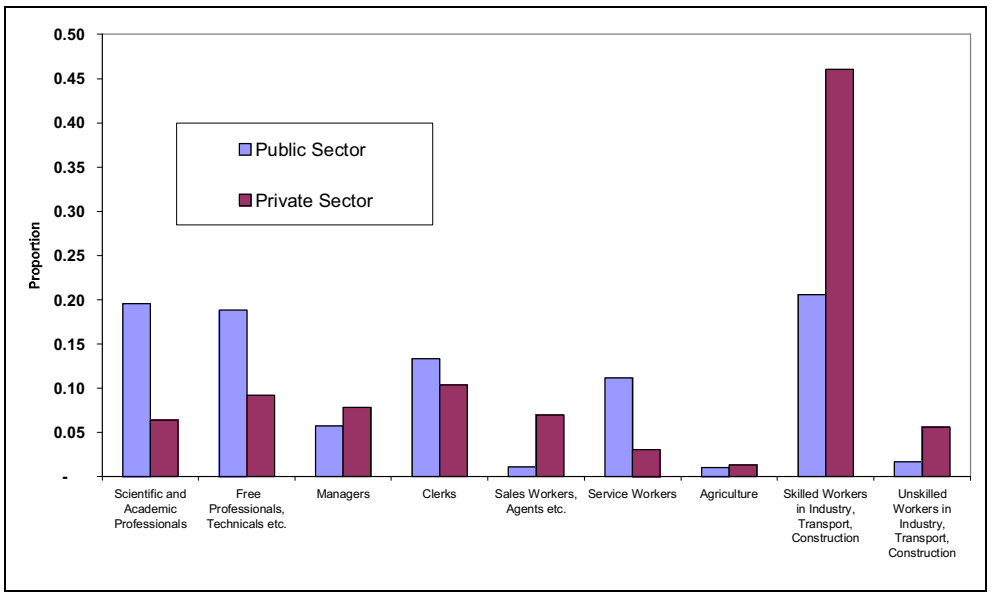
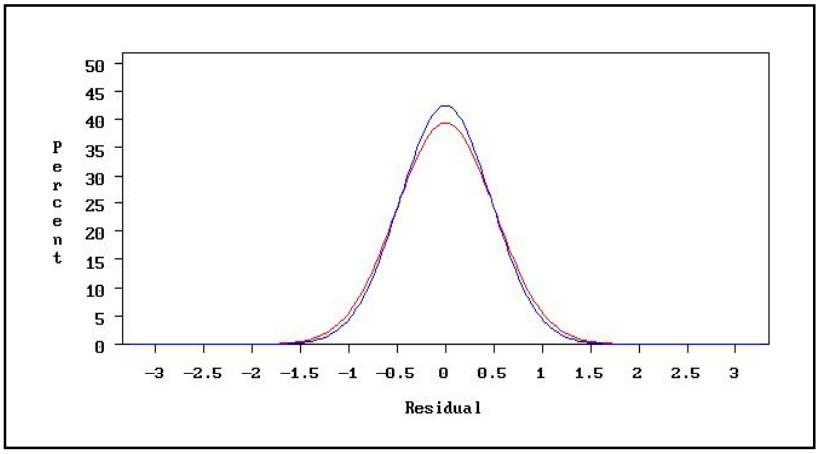


Figure A.2
Distribution of Residuals-wage in the Public Sector, Compared with the Private Sector
Women
MSE = 0.504 in the private sector
MSE = 0.482 in the public sector (the density is higher)



Men
MSE = 0.496 in the private sector
MSE = 0.476 in the public sector (the density is higher)

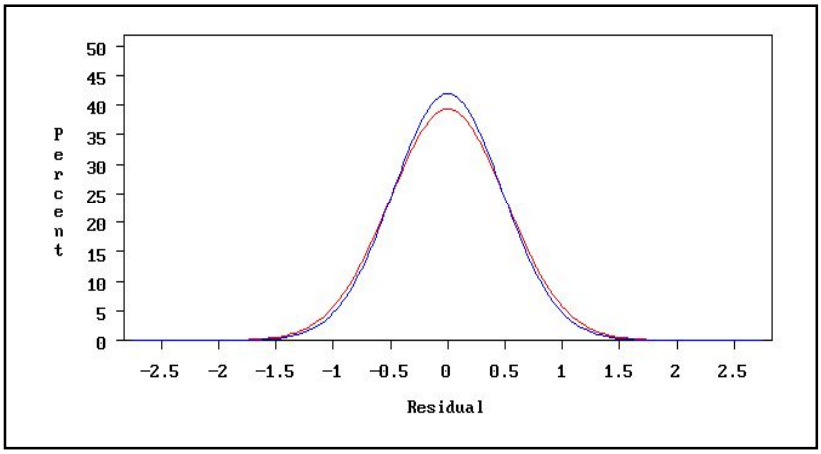


Figure A.3: Monthly Wage According to Percentiles in Each Sector in 1983

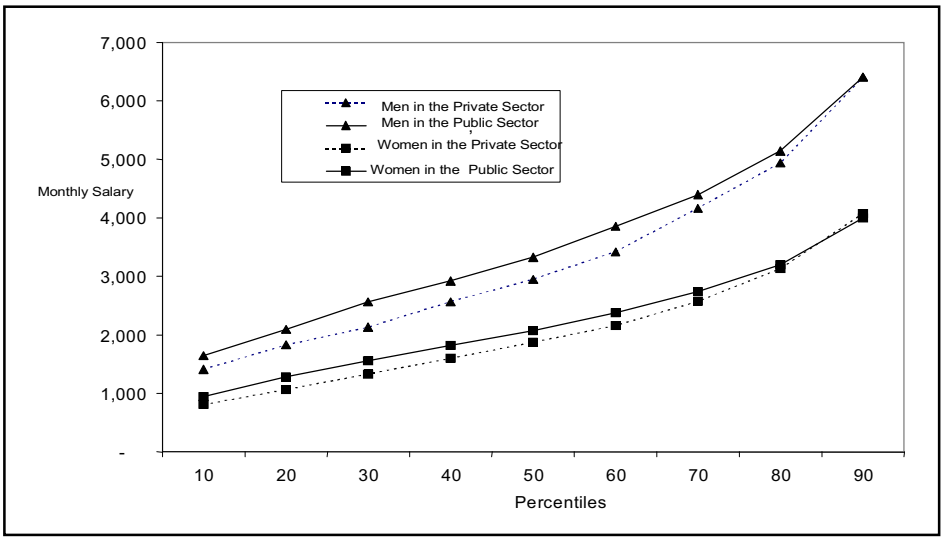


Figure A.4: Relative Proportion of Private Sector Employees in the Joint Deciles

Table A.1
The Dependent Variable: Whether the Employee Left the Public Sector and Entered the Private Sector during 1983-95
Wage is the logarithm of the monthly wage

	1 All Employees		2 Men		3 Women	
Public to Private Sector	dF/dx	z	dF/dx	z	dF/dx	z
Woman	-0.171	-10.79				
Married	-0.001	-0.05	0.004	0.10	-0.000	-0.01
Age	-0.014	-1.01	-0.027	-1.16	-0.004	-0.29
Age squared	0.000	0.69	0.000	1.01	-0.000	-0.01
Jewish	0.076	3.05	0.083	2.17	0.114	2.62
New immigrant	-0.016	-0.50	-0.017	-0.32	-0.012	-0.37
Native born	0.019	1.36	0.050	2.05	-0.009	-0.58
No. of years of schooling	-0.008	-3.46	-0.012	-3.10	-0.004	-1.43
Residual-wage	**0.034**	**2.59**	**0.035**	**1.57**	**0.036**	**2.62**
No. of weekly work hours	-0.002	-2.41	-0.003	-2.69	-0.001	-0.47
Family size	-0.013	-2.59	-0.015	-1.85	-0.017	-2.53
No. of breadwinners	-0.028	-2.10	-0.032	-1.58	-0.018	-1.00
No. of work weeks per year	-0.003	-3.96	-0.004	-3.20	-0.001	-2.18
Part-time employee	-0.128	-4.65	-0.152	-3.34	-0.094	-3.01
Academic	-0.114	-5.26	-0.228	-5.34	-0.034	-1.30
Liberal profession	-0.152	-5.97	-0.109	-2.63	-0.145	-4.43
Management	-0.082	-2.44	-0.099	-1.87	-0.064	-1.55
Clerical occupation	-0.093	-3.62	-0.181	-4.49	-0.042	-1.24
Sales	0.323	4.29	0.167	1.52	0.405	3.89
Services	-0.153	-6.21	-0.227	-5.55	-0.082	-2.64
Agriculture	-0.009	-0.12	-0.011	-0.11		
Skilled industrial (A)	-0.040	-1.28	-0.068	-1.55	0.376	2.46
Skilled industrial (B)	0.032	0.84	0.039	0.78	0.009	0.12
No. of observations	5,017		2,191		2,826	
Pseudo R2	0.125		0.070		0.113	

Table A.2
The Dependent Variable: Whether the Employee Left the Public Sector and Entered the Private Sector during 1983-95
Wage is the logarithm of the hourly wage

	1 All Employees		2 Men		3 Women	
Public to Private Sector	dF/dx	z	dF/dx	z	dF/dx	z
Woman	-0.171	-10.79				
Married	-0.001	-0.05	0.004	0.10	-0.000	--
Age	-0.014	-1.00	-0.027	-1.16	-0.004	-0.29
Age squared	0.000	0.69	0.000	1.01	-0.000	-0.02
Jewish	0.076	3.05	0.083	2.17	0.114	2.62
New immigrant	-0.016	-0.50	-0.017	-0.32	-0.012	-0.37
Native born	0.019	1.36	0.050	2.05	-0.009	-0.58
No. of years of schooling	-0.008	-3.47	-0.012	-3.09	-0.004	-1.43
Residual-wage	**0.032**	**2.38**	**0.033**	**1.45**	**0.035**	**2.52**
No. of weekly work hours	-0.002	-2.42	-0.003	-2.68	-0.001	-0.47
Family size	-0.013	-2.58	-0.015	-1.85	-0.017	-2.53
No. of breadwinners	-0.028	-2.10	-0.032	-1.58	-0.018	-1.00
No. of work weeks per year	-0.003	-3.96	-0.004	-3.20	-0.001	-2.18
Part-time employee	-0.128	-4.64	-0.152	-3.34	-0.093	-3.00
Academic	-0.114	-5.27	-0.229	-5.34	-0.034	-1.29
Liberal profession	-0.152	-5.96	-0.109	-2.63	-0.145	-4.42
Management	-0.082	-2.44	-0.099	-1.87	-0.064	-1.55
Clerical occupation	-0.093	-3.62	-0.181	-4.48	-0.041	-1.24
Sales	0.323	4.29	0.167	1.52	0.405	3.89
Services	-0.153	-6.21	-0.227	-5.55	-0.082	-2.63
Agriculture	-0.009	-0.12	-0.011	-0.11		
Skilled industrial (A)	-0.040	-1.28	-0.068	-1.55	0.376	2.46
Skilled industrial (B)	0.032	0.85	0.039	0.78	0.009	0.12
No. of observations	5,017		2,191		2,826	
Pseudo R2	0.124		0.070		0.113	

Table A.3
The Dependent Variable: Whether the Employee Left the Private Sector and Entered the Public Sector during 1983-95
Wage is the logarithm of the monthly wage

	1 All Employees		2 Men		3 Women	
Private to Public Sector	dF/dx	z	dF/dx	z	dF/dx	z
Woman	0.077	6.50				
Married	-0.020	-1.65	-0.019	-1.27	-0.030	-1.20
Age	-0.019	-2.25	-0.022	-2.31	0.003	0.17
Age squared	0.000	2.17	0.000	2.45	-0.000	-0.45
Jewish	0.014	0.81	0.004	0.27	-0.043	-0.58
New immigrant	0.004	0.22	0.017	0.74	-0.023	-0.58
Native born	-0.002	-0.16	-0.009	-0.85	0.014	0.69
No. of years of schooling	0.001	0.65	0.001	0.64	0.002	0.37
Residual-wage	**-0.064**	**-7.75**	**-0.045**	**-5.15**	**-0.112**	**-6.04**
No. of weekly work hours	-0.000	-0.39	0.000	0.03	-0.002	-1.14
Family size	0.002	0.76	-0.000	-0.14	0.003	0.39
No. of breadwinners	0.007	0.90	0.008	0.97	0.016	0.73
No. of work weeks per year	-0.001	-1.45	0.000	0.03	-0.002	-1.98
Part-time employee	0.013	0.50	-0.026	-1.19	0.176	2.41
Academic	0.044	2.37	0.040	1.11	0.023	0.63
Liberal profession	-0.022	-1.11	-0.027	-1.47	0.011	0.20
Management	-0.039	-1.83	-0.035	-1.80	-0.062	-0.96
Clerical occupation	-0.038	-2.33	-0.027	-1.56	-0.026	-0.61
Sales	-0.031	-1.56	-0.028	-1.35	-0.011	-0.21
Services	0.047	1.83	-0.007	-0.26	0.188	2.99
Agriculture	0.023	0.52	0.018	0.45	0.021	0.16
Skilled industrial (A)	-0.025	-1.54	-0.028	-1.88	-0.001	-0.03
Skilled industrial (B)	-0.040	-2.37	-0.040	-2.63	0.007	0.12
No. of observations	6,066		4,116		1,950	
Pseudo R2	0.054		0.022		0.060	

Table A.4
The Dependent Variable: Whether the Employee Left the Private Sector and Entered the Public Sector during 1983-95
Wage is the logarithm of the hourly wage

	1		2		3	
	All Employees		Men		Women	
Private to Public Sector	dF/dx	z	dF/dx	z	dF/dx	z
Woman	0.077	6.49				
Married	-0.020	-1.65	-0.019	-1.27	-0.030	-1.20
Age	-0.019	-2.25	-0.022	-2.31	0.003	0.16
Age squared	0.000	2.17	0.000	2.45	-0.000	-0.45
Jewish	0.014	0.81	0.004	0.27	-0.044	-0.58
New immigrant	0.004	0.22	0.017	0.74	-0.023	-0.58
Native born	-0.002	-0.17	-0.009	-0.85	0.014	0.69
No. of years of schooling	0.001	0.65	0.001	0.64	0.002	0.37
Residual-wage	**-0.064**	**-7.71**	**-0.045**	**-5.11**	**-0.114**	**-6.09**
No. of weekly work hours	-0.000	-0.45	0.000	0.02	-0.002	-1.16
Family size	0.002	0.76	-0.000	-0.14	0.003	0.39
No. of breadwinners	0.007	0.90	0.008	0.97	0.016	0.74
No. of work weeks per year	-0.001	-1.45	0.000	0.03	-0.001	-1.98
Part-time employee	0.012	0.49	-0.026	-1.19	0.176	2.41
Academic	0.044	2.33	0.040	1.11	0.022	0.60
Liberal profession	-0.022	-1.12	-0.027	-1.47	0.011	0.20
Management	-0.039	-1.83	-0.035	-1.80	-0.062	-0.96
Clerical occupation	-0.039	-2.35	-0.027	-1.56	-0.027	-0.62
Sales	-0.031	-1.56	-0.028	-1.34	-0.011	-0.21
Services	0.047	1.84	-0.007	-0.26	0.188	2.99
Agriculture	0.023	0.52	0.018	0.45	0.022	0.17
Skilled industrial (A)	-0.025	-1.55	-0.028	-1.88	-0.001	-0.02
Skilled industrial (B)	-0.040	-2.37	-0.040	-2.63	0.007	0.12
No. of observations	6,066		4,116		1,950	
Pseudo R2	0.054		0.021		0.060	

REFERENCES

Abramitzky R. (2007). "Testing Self-Selection in Migration: Evidence from the Israel", *UCSD* department of economy.

Bargian O. and Melly B. (2008). "Public Sector Pay Gap in France: New Evidence Using Panel Data", *IZA* DP No. 3427.

Beggs J.J. and Chapman B.J. (1988). "Labor Turnover Bias in Estimating Wages", *Review of Economics and Statistics* 70(1), 117-123.

Bender K.A. (1998). "The Central Government-Private Sector Wage differential", *Journal of Economic Survey* 12, 177-220.

Bender K.A. (2003). "Examining Equality between Public-and Private-Sector Wage Distributions", *Economic Inquiry* 41, 62-79.

Blackaby D.H., Murphy P.D. and O'Leary N.C. (1999). "The Payment of Public Sector Workers in the UK: Reconciliation with North-American Findings", *Economics Letters* 65, 239-243.

Borjas G.J. (1987). "Self-Selection and the Earnings of Immigrants", *American Economic Review* 77(4), 531-553.

Borjas G.J. (2002), "The Wage Structure and the Sorting of Workers into the Public Sector", *NBER* WP 9313.

Buchinsky M. (1994). "Changes in the U.S. Wage Structure 1963-1987: Application of Quantile Regression", *Econometrica* 62, 405-458.

Buchinsky M. (1997). "Recent Advances in Quantile Regression Models: A Practical Guideline for Empirical Research", *Journal of Human Resources* 32, 234-253.

Burgess S. and Ratto M. (2003). "The Role of Incentives in the Public Sector: Issues and Evidence", *Oxford Review of Economic Policy* 19(2), 285-300.

Cardoso A., Neuman S. and Ziderman A. (2007). "Wage Mobility in Israel: The Effect of Sectoral Concentration", *CEPR* DP 6609.

Chamberlain G. (1994). "Quantile Regression, Censoring and the Structure of Wages in CA", Sims C., *Advances in Econometrics 6th World Congress*, 1, Cambridge, Mass.

Disney R. and Gosling A. (1998). "Does it Pay to Work in the Public Sector?", *Fiscal Studies* 19(4), 347-374.

Eckstein Z. and Wolpin K. (1995). "Duration to First Job and the Return to Schooling: Estimates from a Search-Matching Model", *Review of Economic Studies* 62(2), 263-286.

Fougère D. and Pouget J. (2003). "Les Déterminants Economiques de L'entrée dans la Fonction Publique", *Economie et Statistique* 369.370, 15.48. (English version: "Who Wants to Be a 'Fonctionnaire'? The Effects of Individual Wage Differentials and Unemployment Probabilities on the Queues for Public Sector Jobs", mimeo, CREST-INSEE.)

Ghinetti P. and Lucifora C. (2008). "Public Sector Pay Gaps and Skill Levels: a Cross-Country Comparison", Paper prepared for the project "Privatisation and marketisation of services – social and economic impacts on employment, labour markets and trade unions", not published yet.

Gould E. and Moav O. (2007). "Israel's Brain Drain", *Israel Economic Review* 5, 1-22.

Gould E. and Moav O. (2008). "When is 'Too Much' Inequality Not Enough? The Selection of Israeli Emigrants", *CEPR DP6955*.

Gregory R.G. and Borland J. (1999). "Recent Developments in Public Sector Labor Markets", O. Ashenfelter and C. David (eds.), *Handbook of Labor Economics* 3(C), Amsterdam.

Heckman J. (1979). "Sample Selection Bias as a Specification Error", *Econometrica* 47, 153-161.

Heckman J. (1990). "Varieties of Selection Bias", *American Economic Review* 80(2), 313-318.

Jovanovic B. (1979). "Job Matching and the Theory of Turnover", *Journal of Political Economy* 87, 972-990.

Jovanovic B. (1984). "Matching, Turnover and Unemployment", *Journal of Political Economy* 92, 108-122.

Kats L. and Kruger A. (1991). "Changes in the Structure of the Wages in the Public and Private Sectors", *Research in Labor Economics*, 12.

Koenker R. and Bassett G. (1978). "Regression Quantiles", *Econometrica* 46, 33-50.

Kraus V. (1992). "The Role of Industrial and Economic Sector in Gender Inequality in Earnings", *Research in Social Stratification and Mobility* 11, 153-175.

Lazear E. (1986). "Salaries and Piece Rates", *Journal of Business* 59(3), 405-431.

Lazear E. (2000a). "Performance Pay and Productivity", *American Economic Review* 90(5), 1346-1361.

Lazear E. (2000b). "The Power of Incentives", *American Economic Review* 90(2), 410-414.

Lucifora C. and Meurs D. (2004), "The Public Sector Pay Gap in France, Great Britain and Italy", *IZA* DP 1041.

Melly B. (2002). "Public-Private Sector Wage Differentials in Germany: Evidence from Quantile Regression", mimeo, University of St Gallen.

Melly B. and Puhani P.A. (2008). "Privatization and Changes in the Wage Structure: Evidence from Firm Personnel Records", *IZA* DP No. 3760.

Mortensen D. (1986a). "Job Search and Labor Market Analysis", O. Ashenfelter and R. Layard (eds.), *Handbook of Labor Economics*, Amsterdam.

Mortensen D. (1986b). "Wages Separation and Job Tenure", *Journal of Labor Economics* 4, 572-586.

Mortensen D. and Pissarides C. (1999). "New Developments in Models of Search in the Labor Market", Ashenfelter O. Card D. (eds.), *Handbook of Labor Economics*, 3b, Amsterdam.

Mueller R. (1998). "Public-Private Sector Wage Differentials in Canada: Evidence from Qantile Regression", *Economics Letters* 60, 229-235.

Oaxaca R.L. (1973). "Male-Female Wage Differentials in Urban Labor Markets", *International Economic Review* 14(1), 693-709.

Pissarides C. (2000). *Equilibrium Unemployment Theory*, 2nd ed., Cambridge, Mass.

Poterba J. and Rueben K. (1994). "The Distribution of Public Sector Wage Premia: Evidence Using Quantile Regression Methods", *NBER* WP 4734.

Rees H. and Shah A. (1995). "Public-Private Sector Wage Differential in the U.K.", *The Manchester School* 63(1), 52-68.

Shalev A. (2007). "Inequality and the State in Israel: Implications of the Social Services as an Employer", Hebrew University, not published.

Simon L., Stephan M. and Alois S. (2008). "Why Does Unemployment Hurt the Employed? Evidence from the Life Satisfaction Gap between the Public and the Private Sector", *IZA* DP 3385.

Spence M. (1973). "Job Market Signaling", *Quarterly Journal of Economics* 87(3), 355-374.

Weiss A. (1984). "Determinants of Quit Behavior", *Journal of Labor Economics* 2(3), 371-384.

Wolpin K. (1977). "Education and Screening", *American Economic Review* 67, 313-317.