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"The Relationship between Employment in the Public Sector and the Desire to Change Jobs: Evidence from Israel"

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Abstract

This study examines the desire to change jobs among employees in the public versus the private sector and the impact of employees' self-assessment of their job fit. It was found that 8% of all employees wish to change their jobs, with the rate is 30% lower in the public sector compared to the private sector. About one-third of the gap between the sectors can be explained by differences in observable employee characteristics and the higher subjective job fit in the public sector, which reduces the desire to leave. The lower desire to change jobs in the public sector, compared to the private sector, is particularly notable among employees who report that their education or training does not match their job. The estimate for the public sector, after controlling for various factors, likely reflects the different employment conditions, including job stability and fewer working hours, but it may also indicate unobserved differences between employees. A two-stage estimation designed to address this supports the hypothesis that the relationship between working in the public sector and the lower desire to leave, even when the employee believes they are not well-suited to their job, is causal. However, its macroeconomic impact is not substantial.

הקשר בין עבודה במגזר הציבורי והרצון להחליף עבודה - עדויות מישראל

יובל מזר

תקציר

מחקר זה בוחן את הרצון להחליף עבודה בקרב המועסקים במגזר הציבורי לעומת העסקי, והשפעת הערכת העובד את התאמתו לתפקיד. נמצא כי 8 אחוזים מכלל המועסקים רוצים להחליף עבודה, ובמגזר הציבורי השיעור נמוך ב-30 אחוז לעומת המגזר הפרטי. כשליש מהפער בין המגזרים מוסבר בהבדלים בתכונות הנצפות של העובדים ובהתאמה הסובייקטיבית הגבוהה יותר במגזר הציבורי, המקטינה את הרצון לעזוב. נמצא כי הרצון הנמוך יותר להחליף מקום עבודה במגזר הציבורי בהשוואה למגזר העסקי בולט במיוחד בקרב עובדים שמעידים כי השכלתם או הכשרתם אינה תואמות את מקום עבודתם. האומדן למגזר הציבורי לאחר בקרה משקף ככל הנראה בעיקר את אופן ההעסקה השונה בו, כולל היציבות התעסוקתית בו ומיעוט שעות העבודה, אך ייתכן כי הוא מבטא גם הבדלים שאינם נצפים בין העובדים. אומדן דו-שלבי שנועד לטפל בכך תומך בהשערה כי הקשר בין עבודה במגזר הציבורי לרצון הנמוך לעזוב, גם כשהעובד סבור שאינו מתאים למקום עבודתו, הוא סיבתי, אך השפעתו המאקרו-כלכלית אינה משמעותית.

1. Introduction

The Israeli economy is facing a significant challenge of low productivity from an international perspective (for additional information, see "Special Research Division Report: Raising Quality of Life in Israel by Increasing Production," 2019).[1] One of the most important factors that affect productivity is job matching (or person-job fit). Productivity increases when people are employed in jobs in which they make the most effective use of their qualifications. Although person-job matching occurs mainly at the beginning of one's career, through a selection of one's occupation and education, improvements in person-job fit also occur throughout one's career, either after forced dismissal and a period of unemployment, or when a person chooses to leave their current job for a better one. A comparison of one's current employment conditions to alternative conditions is one of the primary factors that affect an employee's decision to leave their current job.

In this study we examine whether employment in the public sector affects employees' turnover intention. Our research hypothesis posits that since employment in the public sector offers greater employment security and more convenient working conditions ("fringe benefits"), the probability that public sector employees will have a desire to change jobs is lower than private sector employees' intentions, particularly when public sector employees believe that their qualifications do not match their job.

The current study found evidence that, after controlling for observable employee characteristics, public sector employees have a lower turnover intention compared to private sector employees, specifically when they believe that their education and/or training does not match their job. The study also found that the differences between these two sectors are especially pronounced among highly educated employees. We attribute this finding to public sector employees' higher risk aversion, which is enhanced by the fear of forgoing the greater job stability and other non-monetary benefits that the public sector offers.

[1] In 2023, average productivity in Israel was 22 percent lower than the OECD average.

Another variable that is important for understanding the difference between these two sectors, and should be controlled for, is employees' assessment of the match between their education and/or training and their job. First, as expected, we find that there is a greater probability that employees who believe that their education and/or training does not match have a desire to change their jobs. Second, given employees' self-assessed mismatch, public sector employment has a stronger effect on turnover intentions.

The type of empirical investigation used here raises the concern that the significant link between public sector employment and turnover intentions reflects a correlational rather than causal relationship. It is conceivable that unobservable characteristics, and specifically risk averse, affect both the selection of employment in the public sector and the desire to change jobs.

To address this concern, we also conducted a two-stage estimation. In the first stage we estimate the effect of place of residence on the decision to work in the public sector — but only for a sample in which employees' place of residence was determined before employment commenced. We assume that the proportion of public sector employees in a specific locality reflects the proximity to a public sector workplace, and that this proximity is exogenous to the choice of employment. This approach is in line with the approach adopted by Card (1993), who estimated the return on education using an auxiliary variable that reflects the proximity to a college. In the second stage, we estimate the effect of the expected probability of public sector employment, which was calculated in the first stage, on turnover intention. The estimates derived from these regressions are similar in size to the OLS estimates.

How does the current study align with the existing body of research?

In Morensem and Pissarids' (1994) classic matching model, only unemployed individuals seek a job, and the intensity of their job search is fixed and exogenous. In other words, in most cases this is a calibrated parameter. Of course, the job search parameter may be extended so that an individual's decision variable depends on other variables, such as job seeking while employed, and many studies do this. However, surprising, few studies have empirically investigated how the job search while employed variable is

affected by various factors, and specifically by employment rigidity. While many studies examined the link between turnover rate and regulatory employment rigidity, few studies have examined the individual's own decision to seek alternative employment or leave their current place of employment (quit rate).

For example, while the issue of higher unemployment in Europe compared to the US, or lower productivity, has been extensively studied under the title of "euro-scerosis," and is specifically explained in the context of regulatory employment rigidity. Employee conduct while employed, however, has been studied much less frequently.

Many studies showed a negative association between regulatory employment rigidity and labor market inflows and outflows. Boeri and van Ours (2008) reviewed several studies and concluded that most studies supported theory, finding a negative correlation between regulatory rigidity and the depths of inflows and outflows, and a small number of studies found effects on labor market inventories, a finding also in line with theory.

In a study similar to the current study, Bertoni et al. (2023) argued that there is limited empirical evidence for effects of employment protection on employees' job search efforts while employed and on employees' mobility in the labor market. They found that severance pay entitlement may reduce employees' motivation to change jobs because they prefer to avoid losing accrued rights. In contrast, these researchers found that reforms that limit employment protection increase employees' job changing efforts and their desire to seek better employment opportunities.

To the best of our knowledge, the research by Gielen and Tatsiramos (2012) is the study most similar to the current study. Their work found a negative correlation between the regulatory employment rigidity index in a specific country and employees' turnover rates: The higher the rigidity index, the smaller the proportion of employees who voluntarily change their place of employment. Their study, however, compares various equilibria across countries: the general equilibrium in a specific country is affected both by the demand and by the supply given the set of applicable labor laws in that country. In other words, a comparison across countries examines employees' turnover rates,

which are also affected by the demand for labor— the hiring rate of job candidates, the rate of vacancies, and the rate of dismissals. In contrast, our study examined differences within Israel, specifically differences between public and private sector employees, and focuses on employees' turnover intentions, given the existing set of applicable labor laws.

In Israel, the 2018 Annual Report of the Commissioner of Wages and Labor Agreements showed that the turnover rate of public sector employees is 50% lower than the turnover rate in the private sector, even controlling for additional explanatory factors. The report also showed that the wages of employees holding an academic degree who moved from the public to the private sector increased at a higher pace compared to their counterparts who remained in the public sector — in contrast to employees without an academic degree. Finally, the report indicated that the mean psychometric exam score of employees who left the public sector is higher than the mean score of employees who joined the public sector. While this report reported correlations and the characteristics of employees who effectively changed jobs, either voluntarily or due to dismissal, and the wage-related implications of the move, the current study focuses on identifying the causal link between employees' turnover intentions and their employment sector (public or private), specifically, given employees' person-job match. The current study also finds a positive correlation between expressing a desire to leave one's place of employment and the actual action of changing a job.

Notably, research literature has also examined other channels of employment stability effects, including several significant factors, but their quantification is beyond the scope of the current study.[2]

[2] Employment stability incentivizes employers to invest in their employees' on the job training, reduces corruption potential in the public sector, provides a sense of stability for employees that increases productivity and commitment, and contributes to the recruitment and retention of high-quality employees compared to the private sector without offering private-sector wages. However, employment stability adversely affects employee incentives to increase their productivity, and undermines efforts to introduce organizational changes required to increase efficiencies and/or production outcomes.

This paper proceeds as follows: The next section describes the database and sample population. We then present the descriptive statistics on the key variables, including public sector employees' characteristics, self-assessment job match, and turnover intentions. The main part of this paper presents the results of the multivariate regression estimates, including the results of the two-stage estimation that addresses potential endogeneity concerns. The fifth section examines the robustness of our findings, specifically using an objective rather than subjective job-match variable. The sixth section presents the results of additional tests, including an estimate of additional years, the correlation between turnover intention and actual turnover, the link to wages, and a "back of the envelope" estimate of the effect of the variance in turnover intentions on productivity and GDP. Finally, we conclude with a summary.

2. Research Database and Population

The database we used to examine our research question is the 2019 Labor Survey, conducted by the Central Bureau of Statistics (CBS). This survey constitutes a representative sample of the working-age population in Israel. The survey includes a range of individual-level data. We selected the year 2019 for its macroeconomic stability (prior to the COVID-19 pandemic and the post-pandemic recovery period, and prior to the Swords of Iron war). The implications of macroeconomic shocks are not the focus of the current study although we present a brief analysis of these effects below.

We focused on employees of the main working ages (25–64). We did not include temporary employees who work fewer than 10 hours per week on average. The main analysis presented here involves a comparison between salaried employees only in the two sectors, for whom the variables of interest appear to be more relevant. The database file includes two variables that are critical for the current study and are based on two questions that were introduced in the annual survey in 2018:

(1) main control variable – Does your work match your education or training?

(2) explained variable – Would you like to change your main job?

Approximately 5 percent of the survey respondents responded "I don't know" to one or both of these questions: This group of respondents is younger, less educated, and the

proportion of public sector employees in this group is smaller compared to the remaining sample (see Appendix A). Still, this group constitutes a small proportion of the sampled population, and the differences between the two populations are not significant. Therefore, to focus the current research effort, we proceeded with employees who responded "Yes" or "No" to both questions.

We used the following variables in our study:

- A variable that indicates employment in the public vs. private sector. We use a specific sector indicator that was introduced by the CBS several years ago.[3] This is the explanatory variable and our focal interest;

Control variables – employee characteristics:

- Gender;
- Employee education based on the most recent educational certificate – We divided the sample into the following bands: up to 12 years of education, matriculation certificate, technical or assistance engineer degree; undergraduate degree; advanced degree;
- Nationality – Jew, Arab;
- Dummy variable for self-identified Haredi (ultra-orthodox);
- Personal status;
- No. of children under the age of 14;
- Proximity of place of employment to place of residence;
- Age – 5-year age groups;
- hours of work;
- Employment status – The majority of tests included only employees with a permanent employment contract;[4]

The following section presents the descriptive statistics.

[3] For additional information on the definition of public sector employment, see Appendix B.

[4] Note that a permanent employment contract does not imply tenure. Approximately 85 percent of the sample population had a permanent employment contract.

3. Descriptive Statistics

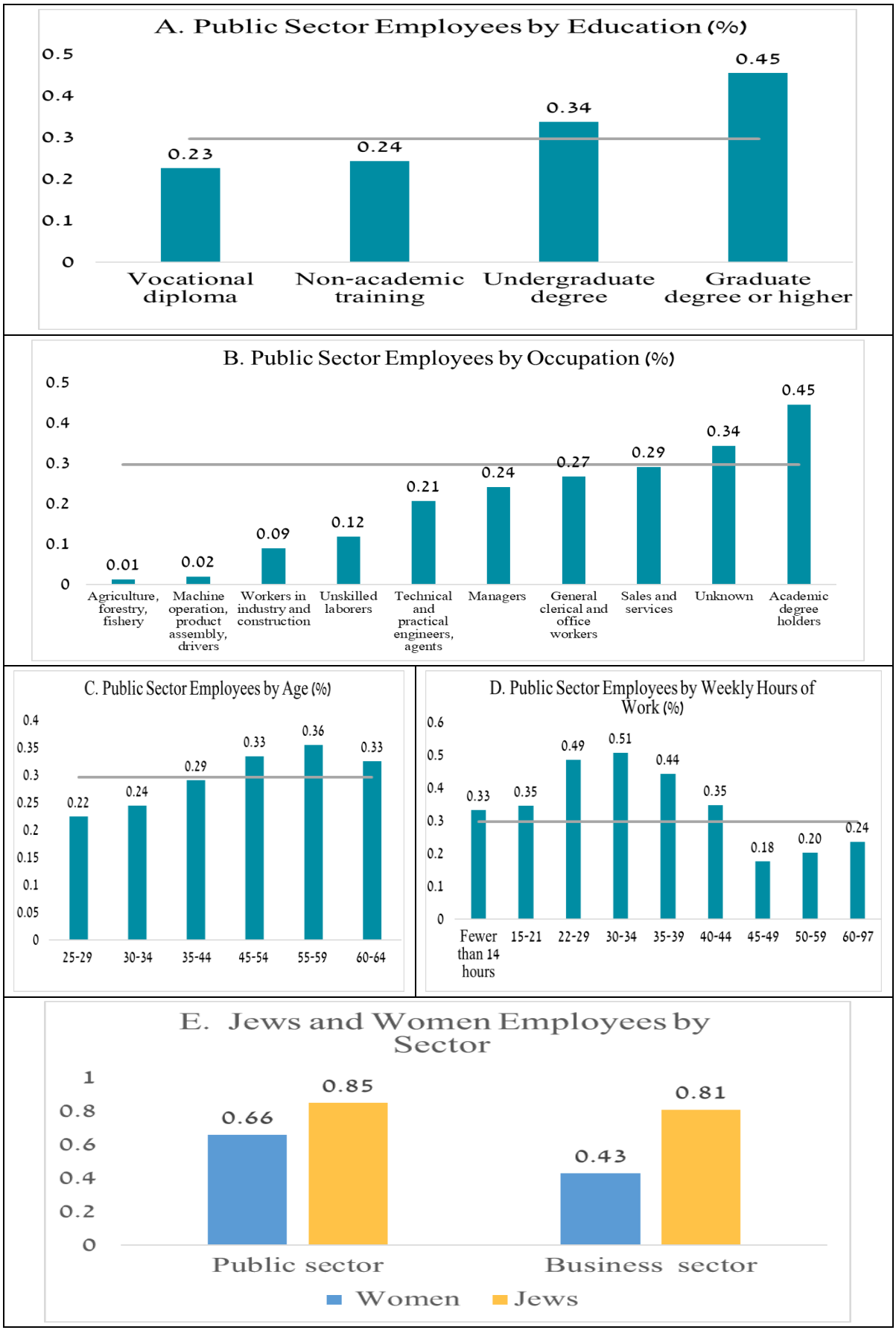
3.A Characteristics of Public Sector Employees

The treatment group in the current study is public sector employees, while the control group is private sector employees. Assignment to these groups is not, however, random, and these groups may differ in both observable and unobservable characteristics. The goal of this section is to identify the differences in observable characteristics, which will serve as controls in the empirical analyses. Below we also elaborate on differences in unobservable characteristics and address the biases they potentially generate.

Figure 1 describes the characteristics of the public sector employees. The gray line in each panel represents the proportion of public sector employees in the whole sample. Where the proportion of employees with a specific characteristic is higher than the gray line, the characteristic is over-represented in the public sector.

From these images we conclude that the mean level of educational attainment of public sector employees is higher (with an over-representation of graduate and advanced degree holders), the mean number of weekly working hours is lower — by 5 percent for men and 6.5 percent for women — and mean age is higher compared with the private sector employees. Occupations that are characterized by high levels of education and skills have a high representation in the public sector, reflecting the more highly educated employees in that sector. Furthermore, the public sector in Israel has a much higher proportion of Jews and similarly to many countries – a higher proportion of women.

Figure 1 – Public and Private Sector, Descriptive Statistics



The high representation of the aforementioned group of employees may in itself be correlated with the outcome variable — a desire to change jobs — and skew the estimated effect of public sector employment on this variable. Therefore, we controlled for these variables in our estimations.

The differences in the observable characteristics also suggest that there is a high likelihood that there are unobservable characteristics that are correlated with the outcome variable and therefore threaten the identification of a causal link between public sector employment and turnover intentions. As noted, we discuss and address these concerns extensively below.

3.B Person-Job Fit and Desire to Change Jobs

To gain a more nuanced understanding of the variables that are unique and important to the current study and available in the Labor Survey beginning from 2018 — subjective person-job fit (control variable) and turnover intentions (explained variable) — we performed several statistical analyses on these variables.

Person-Job Fit ("Does your work match your education or training?")

Overall, 18 percent of the employees responded negatively to this question, that is, they feel that their job does not match their education. Table 1 presents respondents' subjective assessment of the match between their education and their job and the link between subjective person-job fit and several employee characteristics. As we aim to examine the association between a job-education mismatch and turnover intentions, we present the complement to the subjective assessment — the subjective person-job mismatch. Table 1 indicates that subjective mismatch declines with employee education; a greater proportion of Jews believe that their education matches their job than Arabs; and subjective mismatch declines with age (although this is a diminishing trend). Quite high variance mismatch is evident across occupations, and mismatch declines with mean wages per occupation. No significant differences were found in mismatch by gender or weekly hours of work.

Turnover Intentions ("Would you like to change your main job?")

Overall, approximately 8 percent of respondents reported that they would like to change their job.[5] The data show that desire to change jobs declines with age, and a greater proportion of Jews compared to Arabs report that they are interested in changing their job. The association between desire to change jobs and employee education appears to have an inverted-*U* shape: Employees with lower educational attainment and employees who hold an advanced degree are less interested in changing jobs compared to other employee groups. A slightly greater proportion of women express a desire to change jobs compared to men. The desire to change jobs declines with the scope of employment, yet varies across occupations and the desire to change jobs seems to be a mirror image of person-job match, that is, it is inversely related to the mean wages in each occupation.

Table 1 – Descriptive statistics of subjective match and the desire to change jobs

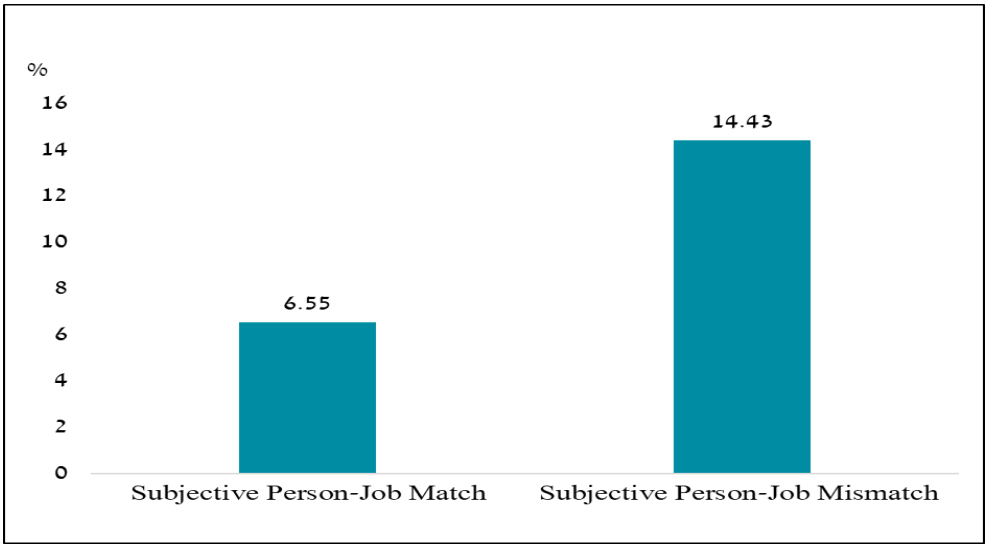
Category	(%) Subjective Mismatch	(%) Turnover Intention
General mean	**0.18**	**0.080**
Jews	0.14	0.08
Arabs	0.37	0.04
Other	0.27	0.10
Men	0.18	0.08
Women	0.17	0.08
Ages 25–29	0.21	0.11
Ages 30–34	0.18	0.09
Ages 35–44	0.17	0.08
Ages 45–54	0.17	0.07
Ages 55–59	0.17	0.06
Ages 60–64	0.16	0.04
Matriculation certificate	0.22	0.08
Vocational school	0.17	0.08
Non-academic training	0.18	0.10
Undergraduate degree	0.15	0.08
Graduate degree or higher	0.09	0.06

[5] The Labor Survey includes a set of binary questions on the reasons for the respondent's desire to change their job. An analysis of this set of questions indicates that the majority of employees who wish to change jobs report that the reason is too low wages (64 percent), and there is no significant difference in this proportion between public sector and private sector employees. The only question on which a statistically significant difference emerged between public and private sector employees is the proportion of employees who reported that they wish to change jobs due to their employment conditions (approximately one half of all employees who reported a desire to change jobs), with a gross difference of 6.7 percentage points in favor of the private sector, 9.3 percentage points for men and 5.5 percentage points for women, and a marginal difference of 5.7 percentage points (in the multivariate regression).

The Link between the Desire to Change Jobs and Subjective Person-Job Fit

Expectedly, employees who feel that their job matches their education and/or training are less interested in changing their job compared to employees who believe that their job does not match their education and/or training (6.6 percent vs. 14.4 percent, respectively; See Figure 2).

Figure 2 – Employee Turnover Intentions by Subjective Person-Job Mismatch



The more interesting findings regarding person-job fit to emerge from the descriptive statistics are the findings related to the public sector (Figure 3). More private sector employees believe that their education does not match their job (approximately 20 percent vs. approximately 10 percent of public sector employees). Accordingly, a smaller proportion of public sector employees report a desire to change jobs compared to private sector employees (6 percent vs. 9 percent, respectively). Ostensibly, this finding is not surprising in view of the negative association we saw previously between person-job match and the desire to change jobs (Figure 2), but the proportion of private sector employees interested in changing their job is higher even after controlling for person-job match (Figure 4). Due to the links between an employee's employment sector and the other employee characteristics, we use a multivariate regression to examine the marginal correlation between employment in the public sector and the desire to change jobs after controlling for employee characteristics.

Figure 3 – Comparison of Variables of Interest, Public and Private Sector

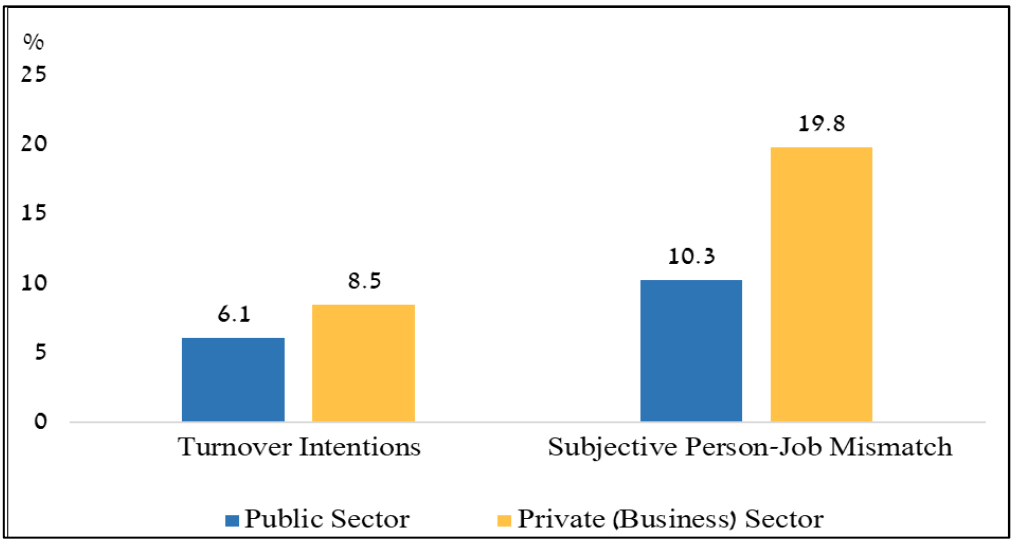
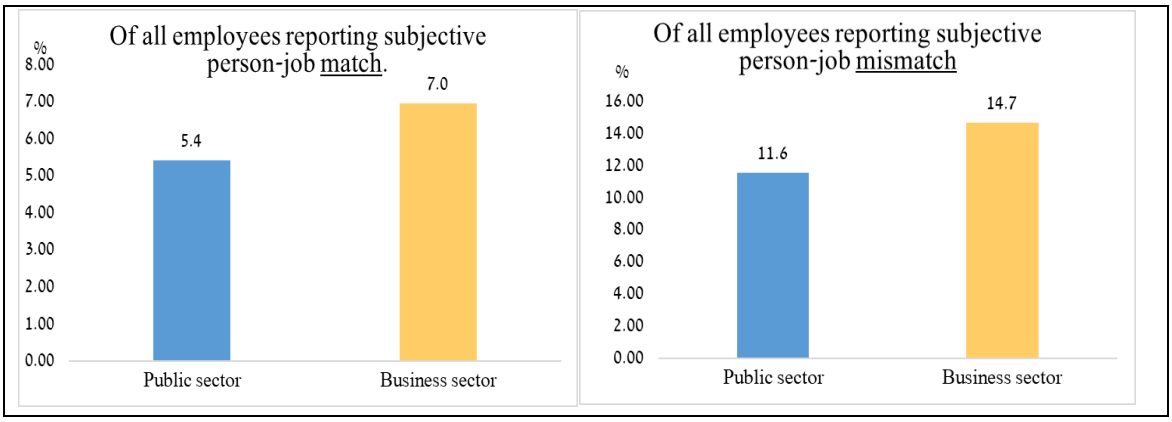


Figure 4 – Employee Turnover Intentions by Subjective Person-Job Mismatch and Sector



4. Estimation of Multivariate Regression Models

In this econometric section, we estimate several multivariate regression models to examine the marginal associations between employment in the public sector and the desire to change jobs (S_i is the dependent variable in Eq I). The variable of interest — the treatment — is public sector employment (*Public*). APP_i – is the variable that expresses subject person-fit. X_i is a vector of other control variables including employee's age, weekly working hours, gender, education, and degree of religious observance.

Eq. I

$$\mathrm{P}(S_i) = C_i + \beta X_i + \gamma_1 Public_i + \gamma_2 APP_i + \in_i$$

After the basic estimation for the entire working-age population, we examine the differential effect of public sector employment for various population groups. Excluding equations (1) and (2) in Table 2A, the regressions were run only for employees with a permanent contract, excluding temporary employees and self-employed individuals. Employees on a permanent contract account for approximately 85 percent of all salaried employees.

Due to the significant differences between the characteristics of the treatment group (public sector employees) and the control group, and the concern that these differences affected a non-random selection of employment sector, we also perform a propensity score matching (*PSM*) estimation. The first stage of the *PSM* examines how the probability of public sector employment varies given various employee characteristics, and in the second stage, the estimation will compare between observations with similar probabilities of public sector employment.

Table 2.A – Turnover Intention, Basic regressions

DV – Turnover Intention			
Independent variables	**(1) Basic**	**(2) Full time job**	**(3) Permanent contract**
Public sector employment	-0.0141***	-0.0180***	-0.0188***
	(0.00209)	(0.00223)	(0.00248)
Subjective person-job match	-0.0855***	-0.0805***	-0.0859***
	(0.00228)	(0.00243)	(0.00299)
Matriculation certificate	-0.00589**	-0.00915***	-0.00873**
	(0.00267)	(0.00282)	(0.00360)
12 years of schooling	0.0165***	0.0150***	0.0202***
	(0.00285)	(0.00301)	(0.00368)
Undergraduate degree	-0.00195	-0.00233	-0.00119
	(0.00243)	(0.00255)	(0.00317)
Graduate degree or higher	-0.00747***	-0.00690**	-0.00591*
	(0.00280)	(0.00292)	(0.00350)
Age	-0.0116***	-0.0105***	-0.0135***
	(0.000719)	(0.000765)	(0.000921)
Arab nationality	-0.0614***	-0.0626***	-0.0575***
	(0.00260)	(0.00270)	(0.00373)
Man	-0.000641	0.00277	0.00193
	(0.00179)	(0.00189)	(0.00225)
Haredi (Ultra-Orthodox)	0.0298***	0.0286***	0.0261***
	(0.00373)	(0.00434)	(0.00465)
Married	-0.0287***	-0.0328***	-0.0220*
	(0.00809)	(0.00828)	(0.0113)
Divorced	0.0191***	0.0203***	0.0189***
	(0.00324)	(0.00342)	(0.00407)
Widow/er	-0.00496	-0.00779	-0.00377
	(0.00858)	(0.00967)	(0.0108)
Single	0.0133***	0.0125***	0.0117***
	(0.00272)	(0.00287)	(0.00356)
No. of persons under age 14	-0.000349	-0.00129*	-0.000680
	(0.000690)	(0.000743)	(0.000873)
Proximity to workplace*			
Level 2	0.0106***	0.0129***	0.00753**
	(0.00245)	(0.00257)	(0.00298)
Level 3	0.00678**	0.00921***	0.00734**
	(0.00299)	(0.00307)	(0.00357)
Level 4	0.0120*	0.0151**	0.0225**
	(0.00650)	(0.00661)	(0.0102)
Level 5	0.00725***	0.00908***	0.00654**
	(0.00230)	(0.00239)	(0.00281)
Level 6	0.0180***	0.0176***	0.0261***
	(0.00393)	(0.00403)	(0.00593)
Level 7	-0.0151*	-0.0100	0.0176
	(0.00781)	(0.00781)	(0.0200)
Intercept	0.214***	0.201***	0.223***
	(0.00533)	(0.00566)	(0.00690)
No. of observations	101,425	87,025	62,641
R^2	0.025	0.024	0.026

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* For additional information see Appendix C.

4.A Regression Analysis: OLS and PSM

The results of the basic model we ran on the entire sample are presented in Table 2A. Tables 2B–2E present the results by population group, and Tables 3A–3D present the results of the *PSM* models.

The proportion of public sector employees who wish to change a job is lower by 1.4 percentage points than in the private sector, holding all employee characteristics constant (1.5 in the *PSM* model). Focusing only on full-time employees, we see that the difference increases to 1.9 percentage points (2.2 in the *PSM* model).[6]

We elaborate on the results for employees with a permanent contract only (Model 3, Table 2A), who comprise approximately 85 percent of all employees, and it is reasonable to assume that a permanent contract and the related employment stability is the channel through which public sector employment affects the desire to change jobs. The proportion of permanent-contract employees in the public sector who wish to change their job is lower by 1.9 percentage points (2.2 in the *PSM* model) than in the private sector. The stronger results regarding the public sector effect on desire to change jobs is in line with our hypothesis that this link reflects employment stability effects. Recall that the raw difference between sectors in the proportion of employees who wish to change their jobs is 3 percentage points (obtained from a comparison of the mean proportion of employees interested in changing jobs in the two sectors).

The various employee characteristics in the two sectors jointly explain, in different directions, approximately one third of the raw between-sector difference in the desire to change jobs: Employees who reported that their job fits their education and/or training will tend to change jobs approximately 8.6 percentage points less than employees who reported a match, all other characteristics remaining constant. Based on the multivariate estimation, we also found that the difference in the degree of person-job match between public sector and private sector employees is the observable

[6] The regressions including commuting from place of residence, where the intersect is commuting level 1, which represents employment within the locality of residence. Commuting level 2 represents individuals who work outside their locality of residence but in their district and region of residence. Higher commuting levels reflect a greater distance between home and place of employment (see additional information in Appendix C).

characteristic that explains most of the difference in turnover intentions between these two sectors.

A greater proportion of employees who have some academic education report a desire to change jobs compared to employees who do not have a matriculation certificate, although no large differences were found in the association between declared turnover intention and education levels, all other characteristics remaining constant.

The desire to change jobs declines with age. Jews and Haredi employees report a desire to change jobs more than do Arab employees. We found no statistically significant gender-based difference in the reported desire to change jobs. A greater proportion of non-married employees (either single or divorced) report a desire to change jobs than do married employees. Finally, according to the estimated degree of employee mobility, a greater proportion of employees whose workplace is far from their place of residence report a desire to change jobs than employees with a shorter commute.

Columns 2 and 3 in Table 2B distinguish between employees who reported person-job match and those who reported a mismatch (to facilitate comparison, column 1 is the result of Model 3, taken from the previous table). We estimated these groups separately because we believe that the greatest inefficiency lies with employees who remain in a job they believe that does not fit their education or training. Public sector employees who work under a permanent contract are almost entirely immune from dismissal, even if they are not well suited for their job and they might remain in their job for fear of losing Their employment stability and become temporary employees in an alternative workplace, specifically in the private sector. Indeed, the public sector effect is evident primarily on employees who report a mismatch: For employees who report a person-job match the difference in turnover intention is estimated at 1.6 percentage points (1.8 in the *PSM* model) comparted to 4.5 percentage points among employees who reported a mismatch (3.3 in the *PSM* model).

Regarding the control variable coefficients (not shown in the tables for the sake of brevity), and focusing on the group of employees who reported a mismatch, findings show that the desire to change jobs is lowest among employees with no matriculation certificate (the intercept), and is highest among employees with some academic

education (undergraduate or more advanced degree). A greater proportion of divorced and single individuals report turnover intentions than married individuals (by 4.8 and 2.4 percentage points, respectively). The desire to change jobs declines by 0.6 percentage points for each child in the family, where the remaining characteristics are held constant. A greater proportion of individuals who work outside their locality/district report a desire to change jobs more than individuals who work closer to home, by 2.9 and 1.8 percentage points, respectively.

Next, in the regressions we separated employees by gender (Tables 2B, 2C, 3B) and these groups were also analyzed using the same logic. Without specifying person-job match, public sector employees' desire to change jobs is 2.3 percentage points higher for men and 1.7 percentage points higher for women. For employees who reported a person-job match, the gender effect on desire to change jobs is negligible: 1.7 percentage points lower for men in the public sector compared to the private sector, and 1.5 percentage points lower for women. For employees who reported a mismatch, the gender effect is more significant: 7.9 percentage points lower for men in the public sector compared to the private sector (7.3 in the *PSM* model) , and 2.9 percentage points lower for women (2.6 in the *PSM* model).

With respect to the control variables (not shown), the proportion of divorced men who desire to change jobs is approximately 5.6 percentage points higher than married men, with a similar difference between divorced and married women. However, while single men do not differ significantly from married men, a greater proportion of single women report a stronger desire to change jobs compared to married women. Another interesting finding is that a greater proportion of women whose workplace is outside their district of residence report a stronger desire to change jobs compared to women who work close to home. No such association was found among men employees.

Having seen the rather significant differences across the sectors in employees' desire to change jobs, we proceeded to divide our data by education, specifically examining employees with and without an academic degree. In such a division we see a significant and positive difference in the desire to change jobs between public sector and private sector men employees, across all education categories, in favor of men in the private

sector, although the greatest difference is found between men employees with an academic degree ("educated") who reported a mismatch (Table 2D) — 12.2 percentage points (13.2 in the *PSM* model) — compared to 5.3 percentage points for educated women employees who reported a mismatch (6.5 percentage points in the *PSM* model); The difference in the desire to change jobs between educated men and education women who reported a person-job match is only 1.8 and 1.7 percentage points, respectively.

As noted, a particularly interesting group of employees are educated employees who reported a mismatch between their education and/or training and their job. In this group, 1 of 5 men (6 women) employed in the private sector, and 1 of 19 men (11 women) employed in the public sector, reported a desire to change jobs. In other words, in this group, four times (twice) as many men employees in the private sector wish to change jobs compared to their men (women) counterparts in the public sector.

4.B Addressing potential endogeneity concerns

Clearly, selecting public or private sector employment is not a random choice and employees decide for themselves based on their personal preferences. Although we control for employees' observable characteristics, it is conceivable that unobserved employee characteristics (omitted variables) could affect the choice of employment sector, even after controlling for observable characteristics (as is reflected in Eq. II). The higher the correlation between these unobserved characteristics and the desire to change jobs, the more biased our model estimates will be, specifically our focal estimate of the effect of public sector employment on the desire to change jobs. In other words, in such a case, the estimated statistical association between an employee's sector and their desire to change jobs would be biased.

Eq. II

$$P(S_i|X_i, Public_i, APP_i) = C_i + \beta X_i + \gamma_1 Public_i + \gamma_2 APP_i + \in_i$$

$$P(S_i|X_i, Public, APP_i) = C_i + \beta X_i + \gamma_1 Public_i + \gamma_2 APP_i + \delta\mu_i + \omega_i$$

$$E(\in_i |X_i, Public_i, APP_i) \neq 0$$

$$\widehat{\boldsymbol{\gamma_1}} = \gamma_1 + \delta \cdot \frac{\boldsymbol{Cov}(\mu_i, Public_i)}{\boldsymbol{Var}(\mu_i)}$$

As δ and/or the correlation between the omitted variable and the choice of public sector employment increases, the bias of the parameter γ_1 increases. For example, if we assume that employees who choose the public sector are, on average, less interested in changing jobs, whether due to risk aversion or other unobserved reasons, the statistical association we find reflects correlation rather than causality. In other words, the choice of one's employment sector merely reflects employees' preferences rather than an effect of the employment conditions on their preferences.

Since some employee preferences are not represented in the observed variables, the *PSM* model estimates also could generate biased estimates. The *PSM* model facilitates a comparison between individuals who have a similar probability of choosing the public sector, but this probability is calculated on the basis of the first-stage estimate that takes into account only the observed variables.

In view of the concern that the choice of public sector employment is not independent of an additional explanatory variable that correlates with the desire to change jobs (e.g., risk aversion), we should examine the effect of the employment sector choice that stems exclusively from an auxiliary variable that leads to a random assignment across the sectors.

The instrument variable we use is the proportion of public sector employees who work in their locality of residence, only for employees who did not move after commencing their employment.[7] For this to be a valid instrument variable, it must be correlated with the probability of public sector employment and not be affected by turnover intentions, controlling for the remaining explanatory variables. Since a place of residence decision that precedes an employment sector decision is not correlated with employees' unobserved characteristics (that might bias the results) —that is, it is an endogenous decision — and is correlated with the probability of public sector employment, it can be used as an instrument variable.[8] This approach is similar to the approach adopted by

[7] To use this variable, we used a combination of the Labor Survey and the 2022 Population Census data. This work and the related regressions were performed in the research room of the CBS.

[8] The observed characteristics are controlled for and therefore there is no statistical requirement to ensure that these characteristics and employees' place of residence are uncorrelated.

Card (1993), who estimated the return on education using an instrument variable that reflects proximity to colleges.

In addition to the estimation described above, we also estimated that model including only localities with large differences in the proportion of employees across sectors: This estimation included only localities in which the proportion of public sector employees was smaller than the 25th percentile of the proportion of public sector employees in all localities, and localities in which the proportion of public sector employees is higher than the 75th percentile (Table 4, left panel).

An analysis of the results of the two-stage estimation (see Table 4) indicates that most of the conclusions drawn from the previous analyses remain valid when we use the instrument variable in lieu of the direct variable of public sector employment. The most important result of the estimation for the entire population is very similar to the results of the *OLS* and *PSM* models. This result is statistically significant in the two-stage regression as well. Moreover, the size of the coefficients is consistent with the size of the coefficients generated in the previous analyses.

An interesting result that emerges from this estimation is that the public sector effect in the two-stage models is primarily found among women, where the results are also statistically significant. This is in contrast to the previous models in which the association between turnover intentions and employment sector was stronger in men, although not significantly so (the addition of an interaction term for gender is not statistically significant). Because this estimation is not burdened by the bias that potentially exists in the other models, we may conclude that the public sector effect on desire to change jobs is stronger in women, which is consistent with studies that show that risk aversion is higher among women, on average,[9] and therefore it is also reasonable that employment stability is also more dominant among women.

[9] See Croson and Gneezy (2009) and Booth et al. (2014).

Table 2.B – Turnover Intentions by Subjective Person-Job Fit

DV – Turnover Intentions			
	(1)	(2)	(3)
Independent variables	All	Subjective person-job match	Subjective person-job missmatch
Public sector employment	-0.0188***	-0.0157***	-0.0451***
	(0.00248)	(0.00245)	(0.00959)
Subjective person-job match	-0.0859***		
	(0.00299)		
No. of observations	62,641	53,243	9,398
R-squared	0.026	0.009	0.046

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2.C – Turnover Intentions by Subjective Person-Job Fit and Gender

DV – Turnover Intentions						
	Males			Females		
	(1)	(2)	(3)	(4)	(5)	(6)
Independent variables	All	Subjective person-job match	Subjective person-job missmatch	All	Subjective person-job match	Subjective person-job missmatch
Public sector employment	-0.0234***	-0.0173***	-0.0788***	-0.0166***	-0.0154***	-0.0291**
	(0.00405)	(0.00401)	(0.0159)	(0.00315)	(0.00310)	(0.0123)
Subjective person-job match	-0.0909***			-0.0825***		
	(0.00452)			(0.00400)		
No. of observations	28,999	24,846	4,153	33,642	28,397	5,245
R-squared	0.026	0.008	0.062	0.028	0.011	0.043

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2.D – Turnover Intentions: Only Uneducated* Employees, by Gender and Subjective Person-Job Match

DV – Turnover Intentions						
	Males			Females		
Independent variables	(1) All	(2) Subjective person-job match	(3) Subjective person-job missmatch	(4) All	(5) Subjective person-job match	(6) Subjective person-job missmatch
Public sector employment	-0.0264***	-0.0224***	-0.0517**	-0.00991*	-0.0120**	-0.000735
	(0.00621)	(0.00633)	(0.0204)	(0.00509)	(0.00508)	(0.0173)
Subjective person-job match	-0.0774***			-0.0737***		
	(0.0130)	(0.0128)	(0.0341)	(0.0130)	(0.0128)	(0.0341)
No. of observations	16,098	13,255	2,843	14,996	12,122	2,874
R-squared	0.023	0.009	0.057	0.031	0.018	0.041

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* Highest educational attainment is a matriculation certificate or a post-secondary/vocational diploma.

Table 2.E – Turnover Intentions: Only Educated* Employees, by Gender and Subjective Person-Job Match

DV – Turnover Intentions						
	Males			Females		
Independent variables	(7) All	(8) Subjective person-job match	(9) Subjective person-job missmatch	(10) All	(11) Subjective person-job match	(12) Subjective person-job missmatch
Public sector employment	-0.0255***	-0.0175***	-0.122***	-0.0199***	-0.0165***	-0.0527***
	(0.00521)	(0.00501)	(0.0274)	(0.00399)	(0.00390)	(0.0179)
Subjective person-job match	-0.121***			-0.0936***		
	(0.00724)			(0.00563)		
No. of observations	12,901	11,591	1,310	18,646	16,275	2,371
R-squared	0.029	0.006	0.055	0.028	0.008	0.053

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* Employees who hold an undergraduate degree or higher.

Table 2.F – Only for the healthcare industry

DV – Turnover Intentions			
Independent variables	(1) All	(2) Subjective person-job match	(3) Subjective person-job missmatch
Public sector employment	-0.0384***	-0.0313***	-0.0801***
	(0.00608)	(0.00589)	(0.0252)
Subjective person-job match	-0.0867***		
	(0.00809)		
No. of observations	8,147	6,907	1,240
R-squared	0.030	0.011	0.059

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3 – PSM Estimates

Table 3.A – Turnover Intention, by Person-Job Fit

DV – Turnover Intentions					
Independent variable	(1) Entire population	(2) Full-time	(3) Permanent contract	(4) Permanent contract - Person-job match	(5) Permanent contract - Person-job mismatch
PSM estimate – public sector	-0.0151***	-0.0185***	-0.0225***	-0.0181***	-0.0332***
	(0.00248)	(0.00270)	(0.00293)	(0.00267)	(0.0124)
No. of observations	101,425	87,025	62,641	53,243	9,398

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3.B – Turnover Intention, by Gender

DV – Turnover Intentions						
Independent variable	Men	Men- Job-person match	Men – Job-person mismatch	Women	Women-Job-person match	Women – Job-person mismatch
PSM estimate – public sector	-0.035***	-0.023***	-0.073**	-0.026***	-0.017***	-0.026**
	(0.004)	(0.004)	(0.019)	(0.004)	(0.004)	(0.02)
No. of observations	28,999	24,846	4,153	33,642	28,397	5,245

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3.C – Turnover Intentions: Uneducated Employees,* by Gender and Subjective Person-Job Match

DV – Turnover Intentions						
Independent variable	(6) Men	(7) Men- Job-person match	(8) Men – Job-person mismatch	(9) Women	(10) Women- Job-person match	(11) Women – Job-person mismatch
PSM estimate – public sector	-0.0312***	-0.0335***	-0.0510**	-0.00910	-0.00917	0.00941
	(0.00694)	(0.00642)	(0.0215)	(0.00632)	(0.00632)	(0.0276)
No. of observations	16,098	13,255	2,843	14,996	12,122	2,874

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* Highest educational attainment is a matriculation certificate and/or vocational/post-secondary diploma.

Table 3.D – Turnover Intentions: Educated Employees,* by Gender and Subjective Person-Job Fit

DV – Turnover Intentions						
Independent variable	(12) Men	(13) Men- Job-person match	(14) Men – Job-person mismatch	(15) Women	(16) Women- Job-person match	(17) Women – Job-person mismatch
PSM estimate – public sector	-0.0313***	-0.0136**	-0.132***	-0.0252***	-0.0155***	-0.0653***
	(0.00515)	(0.00538)	(0.0213)	(0.00413)	(0.00396)	(0.0182)
No. of observations	12,901	11,591	1,310	18,646	16,275	2,371

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

* Employees who hold an undergraduate degree or higher.

Table 3.E – Only for the healthcare industry

DV – Turnover Intentions			
Independent variables	(18) All	(19) Subjective person-job match	(20) Subjective person-job missmatch
PSM estimate – public sector	-0.0350*** (0.00704)	-0.0389*** (0.00759)	-0.0668** (0.0260)
No. of observations	8,147	6,907	1,240

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4 – Turnover Intentions: 2SLS Estimates

DV – Turnover Intentions										
	All areas					Exceptional areas - public sector jobs				
	(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	(9)	(10)
Independent variable	Entire population	Men	Women	Match	Mismatch	Entire population	Men	Women	Match	Mismatch
2SLS estimate – public sector	-0.041**	0.019	-0.054**	-0.021	-0.124	-0.042**	-0.021	-0.042**	-0.031	-0.068
Standard deviation	(0.019)	(0.029)	(0.025)	(0.018)	(0.075)	(0.019)	(0.030)	(0.026)	(0.019)	(0.093)
No. of observations	6339	2896	3443	5398	941	3171	1472	1699	2707	464

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4.C Models Including Interaction Effects

Table 5 presents four models we estimated that included interaction terms for the public sector: subjective person-job fit, yes/no children, personal status, age, working hours, and years of education.[10] The first column presents the results for the entire population employed under a permanent contract, from which we conclude that the interaction of subjective person-job match and public sector employment is negative and statistically significant. That is to say, public sector employees with a mismatch wish to change jobs 4.3 percentage points less in the public sector than mismatched private sector

[10] Note that this estimation method makes the coefficient of public sector employment positive, but this change has no economic significance.

employees. Furthermore, we conclude that as the hours of work increase, the difference between the proportion of job seekers in the two sectors increases in favor of the private sector. This difference also increases as employees' education increases, — a finding that is consistent with our findings in the models that did not include interaction effects, where we found that the difference between job seekers is greater among the educated employed.

The following three estimations refer exclusively to employees who reported a person-job mismatch. From these estimations we conclude that as employee education increases, the desire of public sector employees to change jobs is lower compared to private sector employees. A particularly interesting finding that supports the hypothesis that the relative employment stability and convenient employment conditions, such as fewer working hours, incentivize women to seek employment in the public sector even if their education and/or training does not match the job, is that a smaller proportion of women with children in the public sector than in the private sector would like change jobs (see Table 5, column 4). The remaining interaction terms were not statistically significant. The hypothesis that the lower number of work hours is the reason that women with children in the public sector are less interested in seeking alternative employment is also supported by the finding that the interaction term is statistically significant and twice as large when we estimate the regression only for part-time women employees.

Table 5 – Turnover Intentions: Models with Interaction Terms

Independent variables	(1) Permanent contract	(2) Only mismatched employees	(3) Only mismatched men employees	(4) Only mismatched women employees
Public Sector	0.0337*	0.298***	0.220	0.328***
	(0.0194)	(0.0799)	(0.139)	(0.104)
subjective mismatch	0.0951***			
	(0.00335)			
Public_subjective mismatch	-0.0426***			
	(0.00744)			
Public_children	0.00783	-0.0350	-0.0427	-0.0588*
	(0.00584)	(0.0236)	(0.0397)	(0.0302)
Public_divorced	-0.00571	-0.0134	-0.0756	0.00769
	(0.00915)	(0.0329)	(0.0691)	(0.0377)
Public_single	-0.0192**	-0.0556	-0.0893	-0.0173
	(0.00901)	(0.0374)	(0.0590)	(0.0502)
Public_age	0.000353	-0.0131	-0.00968	-0.0161
	(0.00211)	(0.00855)	(0.0139)	(0.0112)
Public_hours	-0.00400***	-0.0132***	-0.0138	-0.00689
	(0.00125)	(0.00473)	(0.00902)	(0.00618)
Public_education	-0.00179**	-0.0113***	-0.00740	-0.0137***
	(0.000734)	(0.00321)	(0.00510)	(0.00424)
Years of education	0.00214***	0.0132***	0.0127***	0.0135***
	(0.000428)	(0.00144)	(0.00204)	(0.00209)
Hours	-0.000868	-0.00199	0.00246	-0.00592**
	(0.000746)	(0.00209)	(0.00329)	(0.00277)
Children	-0.00216	-0.00565	-0.0372**	0.0178
	(0.00308)	(0.00970)	(0.0148)	(0.0130)
Single	0.0155***	0.0288**	0.00823	0.0427**
	(0.00424)	(0.0130)	(0.0197)	(0.0173)
Divorced	0.0234***	0.0521***	0.0575**	0.0515***
	(0.00478)	(0.0136)	(0.0249)	(0.0162)
Permanent	0.105***	0.109***	0.119**	0.132***
	(0.0109)	(0.0339)	(0.0517)	(0.0468)
No. of observations	62,103	9,330	4,129	5,201
R^2	0.026	0.052	0.062	0.052

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5A. Robustness Tests – Focus on the Healthcare, Nursing, and Welfare Sector

Even before the CBS introduced its own classification of public/private sectors, the Bank of Israel used its own designation of each economic branch as public or private. Still, several sectors defy a clear-cut designation as either the public or the private sector. For example, in the economic branch Healthcare, Nursing, and Welfare sector, 38 percent of employees are defined as public sector employees. We therefore run the multivariate regression only on employees in the healthcare, nursing, and welfare category (see Tables 6A and 6B).

The resulting coefficient of the public sector effect is relatively greater than the basic estimation (-0.038 for the *OLS* model and -0.035 for the *PSM* model, see Tables 6A and 6B, respectively). For employees who reported a person-job match, the coefficient is 3.1 percentage points (3.9 in the P*SM* model) compared to a much more significant difference among employees who reported a mismatch (8.0 percentage points in the *OLS* model and 6.7 percentage points in the *PSM* model). This finding supports our previous findings regarding the sign, size, and statistical significance of the public service effect coefficient, and may even be more accurate than the previous finding.

5B. Robustness Test – Objective Person-Job Fit vs. Subjective Match

In addition to the subject person-match variable (based on responses to the question "Does your education match your job?"), we used a conventional methodology to construct an objective index of education-job match (based on Zussman et al., 2019). We computed mean and standard deviation of educational attainment (number of years of education) for each two-digit occupation category (of CBS).[11] We then defined the objective person-job match variable as follows:

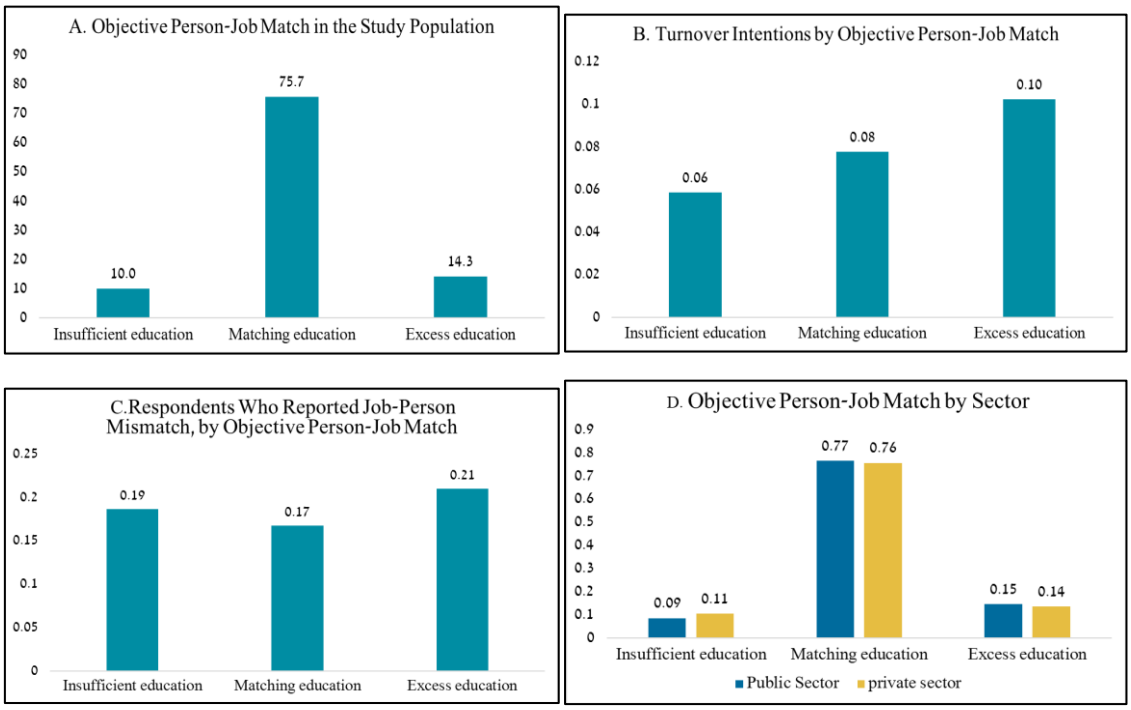
An employee's education is considered to match their job if it is within the range of the mean number of years of education for their occupation, plus or minus one standard deviation, where the value 1 reflects objective person-job match. We constructed two indicator variables: educational attainment is less than the one deviation under the

[11] According to years of education. We corrected years of education for Haredi Jew as follows: For Haredi Jews with no academic degree, each year of education beyond 12 years was counted using a factor of 0.2.

mean is considered insufficient education while educational attain greater than one standard deviation above the mean is considered excess education. Approximately 15 percent of employees have excess education, 10 percent have insufficient education, and the education of the remainder matches their job.

Employees with excess education report less than other employees that their education matches their job and that they would like to change jobs. No significant gender effects on the distribution of this difference were found.

Figure 5. Analysis of Objective Person-Job Match



Next, we estimated the basic regressions (only for permanent-contract employees), but this time we replaced the subjective person-job match variable with the objective variable. Note that the objective person-job match variable takes three values — a higher value reflects higher fit – and as we did not assume a linear effect on employees' desire to change jobs, we analyzed each of the three cases separately.

The interesting results in the current study, presented in Tables 7A and 7B, are robust to the change we introduced and examined. That is, they are very similar to the results presented earlier. Both the direction and size of the interesting estimations are similar

to the previous models, and the greater the person-job mismatch (the employee has excess education), the difference between public and private sector employees' desire to change jobs increases. The direction of this difference is similar to the case of the subjective person-job fit variable. The objective match variable also provides information on whether the source of the mismatch is excess or insufficient education. We found that a weaker desire to change jobs in the public sector is found among employees with excess education. This is a source of inefficiency because these employees might have made a more significant contribution to productivity had they been in another job, specifically in the private sector.

Table 6A. Turnover Intentions: OLS Regression Results with Objective Person-Job Fit Variable

Dependent variable: Turnover intentions					
Independent variables	(1) Insufficient education	(2) Matching or excess education	(3) Matching education	(4) Excess education	(5) Matching or insufficient education
Public sector employment	-0.00874	-0.0273***	-0.0215***	-0.0494***	-0.0208***
	(0.00799)	(0.00262)	(0.00280)	(0.00716)	(0.00264)
Subjective person-job	-0.0100	-0.00917**	-0.0119***	0.0679***	-0.00977***
	(0.00791)	(0.00403)	(0.00404)	(0.0222)	(0.00361)
No. of observations	5,399	57,242	48,318	8,924	53,717
R^2	0.024	0.013	0.012	0.029	0.012

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6B. Turnover Intentions: PSM Regression Results with Objective Person-Job Fit Variable

Dependent variable: Turnover intentions					
Independent variables	(1) Insufficient education	(2) Matching or excess education	(3) Matching education	(4) Excess education	(5) Matching or insufficient
PSM estimate – public sector	-0.0124*	-0.0292***	-0.0238***	-0.0490***	-0.0254***
	(0.00735)	(0.00284)	(0.00310)	(0.00798)	(0.00325)
No. of observations	5,399	57,242	48,318	8,924	53,717

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

6. Additional Tests

6A. Additional Years

The variables of interest in this study — turnover intentions and person-job match — were collected in the labor surveys only since 2018. As we noted above, in this study we selected the year 2019 as the primary year of analysis because in this year the Israeli economy was stable and the annual growth rate was similar to the multi-annual growth rate. In 2020, the COVID-19 pandemic caused an enormous shock to the labor market in and outside Israel and subsided only in 2022. Nonetheless, an examination of the research question for additional years is warranted, with the necessary caution. Figure 6 presents the variables of interest in the current study for the period from 2018 to 2022. Several important points emerge from the results:

- Person-job fit is higher in the public sector than in the private sector in this period, and the difference persists over time.

- The pandemic apparently reduced the desire to change jobs, especially in the private sector, which reduced the difference between sectors in 2020 and 2021.

- Education-job fit and the desire to change jobs are negatively correlated, although the desire to change jobs when a mismatch exists is greater in the private sector than in the public sector. The year 2022 is an exception as public sector employees with a mismatch had a stronger desire to change jobs than did their counterparts in the private sector.

Figure 6 – Tests for– Extended Years of Analysis

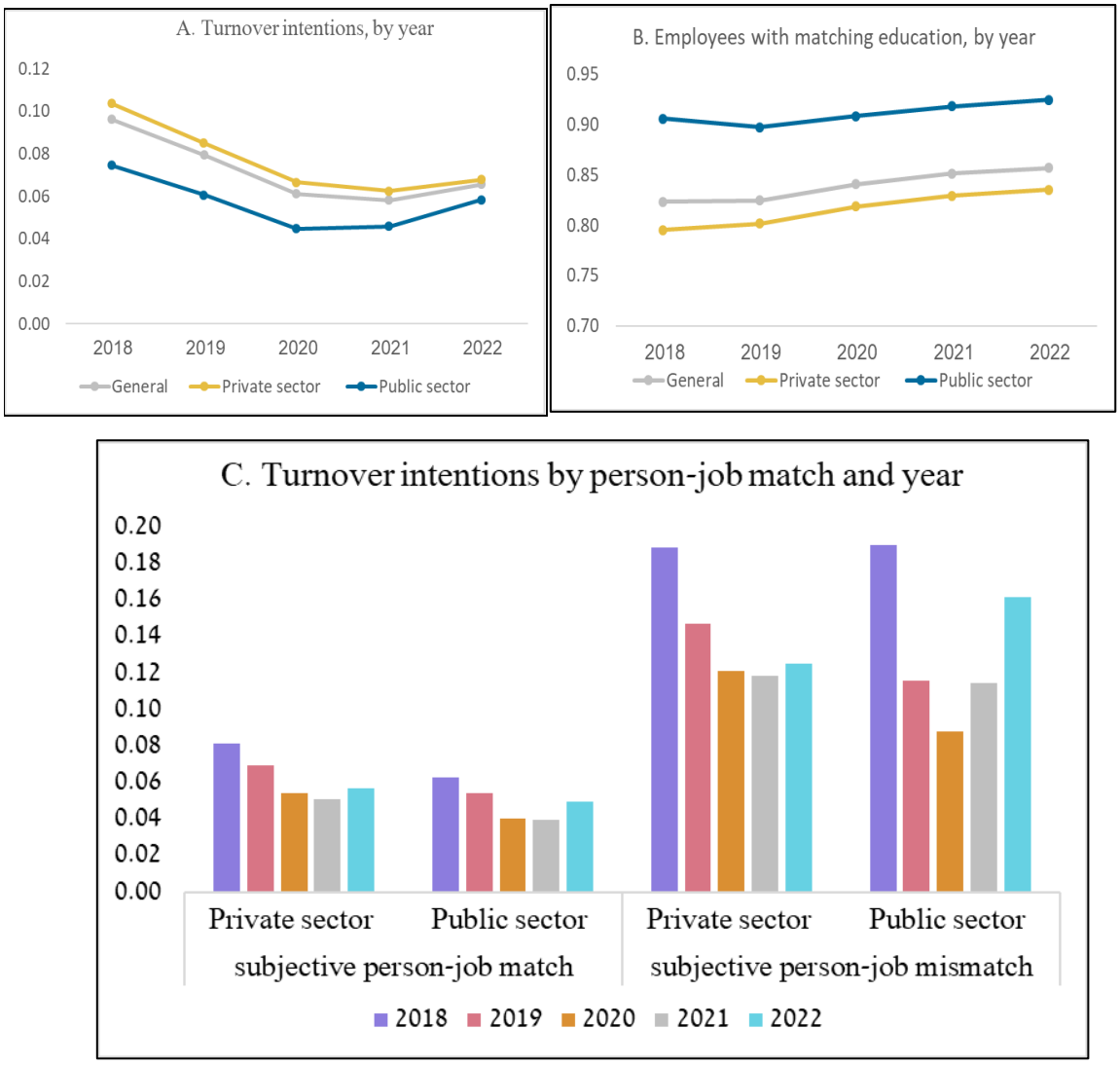


Table 8 presents the *OLS* and *PSM* estimations over time of the public sector parameter based on the multivariate regressions for permanent-contract employees only (this table corresponds to Table 2B for the year 2019). Table 8 presents the coefficient of the public sector variable with no interaction effects (Model I above) and the rows below it present the coefficient of the public sector variable by the level of person-job fit for each year.

This table indicates that, with the other employee characteristics held constant, the marginal association between public sector employment and desire to change jobs is particularly characteristic of 2019, but remains negative and statistically significant in the remaining years as well. It is conceivable that the pandemic had this effect in view

of the desire of employees — including private sector employees – for employment stability in that period. The year 2022 is also exceptional in the multivariate model, as the marginal association between desire to change jobs in the public sector in this year actually increases with person-job fit.[12] This may stem from the decline in the intensity of the pandemic. To establish certain assumptions about the pandemic's long-term effects over a longer period, the data should be tracked in forthcoming years.

Table 7 - Turnover Intentions: Results of OLS and PSM Regressions for Additional Years

Year	2018		2019		2020		2021		2022	
	OLS	PSM	OLS	PSM	OLS	PSM	OLS	PSM	OLS	PSM
All permanent contract employees	-0.027	-0.025	-0.019	-0.023	-0.016	-0.014	-0.018	-0.020	-0.009	-0.012
SD	0.003	0.003	0.002	0.003	0.002	0.003	0.002	0.002	0.002	0.003
Only matched employees	-0.026	-0.024	-0.016	-0.018	-0.013	-0.014	-0.017	-0.017	-0.013	-0.017
SD	0.003	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002
Only mismatched employees	-0.035	-0.011	-0.045	-0.033	-0.032	-0.011	-0.029	-0.018	0.023	0.027
SD	0.012	0.015	0.010	0.012	0.009	0.015	0.010	0.011	0.011	0.016

6B. Are the Desire to Change Jobs and Actual Change of Jobs Correlated? Using the Panel Element of the Labor Survey

The Labor Survey also tracks a portion of the sampled population over four additional sampling periods, and after an interval of eight sampling periods, this group is sampled again for four consecutive sampling periods. The panel sampling method makes it possible to track changes over time and examine the association between turnover intentions and actual job switching behavior.

The question posed in the Labor Survey is: "Do you still work in the same job as in the previous survey (for individuals who were employed in the determining week in the previous survey)?"

We can use the panel component of the sample to test for an association between employees who reported a desire to change jobs in a specific wave and whether they

[12] When we focused on the year 2022 we found that the main change in job seeking patterns stemmed from an increase in the proportion of employees in the public sector who seek work and whose education fits their job — for educated women and uneducated men.

remained in that job. A positive correlation would support the variable's role as a predictor of actual behavior and not only a predictor of intentions.

Table 9 presents the results. This table indicates a robust positive correlation between the probability that employees report a desire to change jobs (Table 9A) and the probability that they will have changed their job by the next wave The coefficient is between 2 and 3 percentage points for a binary association between the two variables and is estimated at approximately 2.4 percentage points in a multivariate regression (Table 9B, regression 9). This is a significant effect in view of the fact that over 98 percent of all employees did not change their job. Our analysis also indicates that the positive correlation is slightly higher for men and for employees who reported a mismatch between the job and their education and/or training who work in the public sector.

Table 9C presents the same outcome variable, not only in comparison to the declaration of the specific employee in the previous wave, but also compared to the variable that takes the value of 1 if the employee reported a desire to change jobs in any previous wave, and takes the value of 0 otherwise. This variable was also found to have a statistically significant positive correlation with employee's probability of having changed jobs.

Table 8A. - Did the Employee Change Their Job as a Function of Turnover Intentions Reported in the Previous Survey?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Independent variables	General	General, by Previously Reported Intentions	Women	Men	Job-person mismatch, private sector	Job-person mismatch, public sector	Job-person match, private sector	Job-person match, public sector
Turnover intentions – yes	-0.0157***							
	(0.00282)							
Turnover intentions reported in previous survey		0.0252***	0.0194***	0.0319***	0.0229***	0.0250***	0.0324***	-3.20e-19
		(0.00262)	(0.00339)	(0.00407)	(0.00501)	(0.00663)	(0.00395)	(0.00374)
Intercept	1.011***	1.004***	1.004***	1.005***	1.004***	1.003***	1.006***	1.003***
	(0.000459)	(0.000431)	(0.000557)	(0.000669)	(0.00121)	(0.00124)	(0.000626)	(0.000512)
No. of observations	51,635	39,562	21,126	18,436	4,758	1,083	22,614	11,107
R^2	0.001	0.004	0.003	0.006	0.009	0.025	0.006	-

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8B. Did the Employee Change Their Job as a Function of Turnover Intentions Reported in the Previous Survey, Controlling for All Variables?

Independent variables	(1)
Subjective person-job match	-0.0149**
	(0.00749)
Previously reported turnover intentions	0.0245***
	(0.00261)
No. of observations	39,562
R^2	0.018

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8C. Did the Employee Change Their Job as a Function of Turnover Intentions Reported in any Previous Survey?

Independent variables	(1) General	(2) Women	(3) Men	(4) Job-person mismatch	(5) Job-person mismatch	(6) Job-person match,	(7) Job-person match
Did the employee ever report turnover intentions?	0.0176***	0.0159***	0.0196***	0.0189***	0.0345***	0.0210***	0.00478**
	(0.00131)	(0.00167)	(0.00205)	(0.00297)	(0.00585)	(0.00200)	(0.00201)
Intercept	1.005***	1.005***	1.006***	1.004***	1***	1.007***	1.003***
	(0.000447)	(0.000575)	(0.000694)	(0.00139)	(0.00225)	(0.000657)	(0.000585)
No. of observations	41,569	22,208	19,361	5,030	1,145	23,731	11,663
R^2	0.004	0.004	0.005	0.008	0.030	0.005	0.000

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

6C. Are Reported Turnover Intentions Correlated with Wages? Connecting the Labor Survey and the Employer-Employee Data Files

In the current research, we learned that the majority of employees who expressed a desire to change jobs reported that the main reason for this desire is pay dissatisfaction. To examine the correlation between the actual wages of employees who wish to change jobs and their counterparts, we compare the mean wages in these two groups. In this way we examine whether salary dissatisfaction indeed reflects actual salary differences.

The estimation method:

For each individual in the sample we construct a new variable, $\overline{W}_j$, which represents the mean salary as a function of age, nationality, religious observance, gender, sector, and educational attainment, and compare the individual's actual wages to the mean wages of their reference group (Residual Salary, Eq. III). We then estimate the association between the variable we constructed and the desire to change jobs (Eq. IV).

III

$$Residual_i = \log(W_i) - \log(\overline{W}_j)$$

IV

$$\mathrm{P}(S_i) = \delta \cdot Residual_i + \tau_i$$

The results, presented in Tables 10A and 10B, show a negative correlation between relative salary level and desire to change jobs. That is, the higher the individual's salary relative to their reference group, the lower the probability that the individual will report a desire to change jobs. This correlation is stronger among employees who report a mismatch between the education and their job, especially in the private sector.

Table 9A. Subjective Person-Job Match and Residual Salary

Dependent Variable – Subjective Person-Job Match	
Independent variable	**(1)** Subjective person-job match
Residual salary	0.0365***
	(0.00204)
Intercept	0.843***
	(0.00160)
No. of observations	66,184
R^2	0.006

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9B. Association between Turnover Intentions and Residual Salary

Dependent Variable – Turnover Intentions									
Independent variable	(2) Turnover intentions	(3) Person-job match	(4) Person-job mismatch	(5) Public sector employees	(6) Private sector employees	(7) Person-job match, public sector	(8) Person-job mismatch, public sector	(9) Person-Job match, private sector	(10) Person-job match, private sector
Salary residual	-0.0152***	-0.0140***	-0.0223***	-0.00945***	-0.0172***	-0.0157***	-0.00808	-0.0135***	-0.0243***
	(0.00123)	(0.00134)	(0.00393)	(0.00279)	(0.00138)	(0.00356)	(0.0102)	(0.00139)	(0.00427)
Intercept	0.0443***	0.0383***	0.0810***	0.0370***	0.0469***	0.0344***	0.0870***	0.0396***	0.0801***
	(0.000910)	(0.000931)	(0.00322)	(0.00178)	(0.00107)	(0.00183)	(0.00925)	(0.00109)	(0.00343)
No. of observations	65,495	52,898	10,690	16,985	48,510	14,172	1,467	38,726	9,223
R^2	0.003	0.003	0.004	0.001	0.004	0.003	0.000	0.003	0.005

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

6D. Estimated Effect on Productivity – A Back of the Envelope Calculation

In this section we attempt to quantify the decline in productivity resulting from the fact that smaller proportion of employees wish to change jobs in the public sector compared to their counterparts in the private sector (where the smaller desire to change jobs is pronounced only when the employees' person-job mismatch is due to excess education). We focus only on permanent-contract employees who report that a mismatch between their education and their job (17 percent of all employed individuals), and of them — the individuals employed in the public sector (18 percent).

Total adverse effect on productivity as a result of public sector employees' lack of desire to search for a job that matches their education and training:

V.

$$\frac{\partial Y}{\partial Search\_Public} \cong Unappropriate_{share} \cdot Public_{share} \cdot \left[\frac{\partial Search}{\partial Public}\right] \cdot \left[\frac{\partial Y}{\partial S}\right] =$$

$$= 0.17 \cdot 0.18 \cdot \left[-0.045 \cdot \frac{+}{-} 2SD\right] \cdot \left[\frac{\partial Y}{\partial S}\right]$$

Where -0.045 is taken from our research (Table 2B, column 3), and SD are the standard deviations of the estimate (0.01). The parameter we lack to complete this estimation is the pass-through between job seeking while employed and a rise in productivity.

Research found that employees who changed jobs, in comparison to employees who did not, improved their salary, where the improvement ranged between 10 and 20 percent.[13] We insert these values in Eq. V and obtain an estimate that ranges from:

$$0.031 \cdot [-0.0259 \cdot 10\%] = 0.008\%$$

to:

$$0.031 \cdot [-0.0643 \cdot 20\%] = 0.04\%$$

In other words, the estimated total adverse effect of employment security in the public sector, and the consequent drop in person-job fit, on productivity is between 0.008 and 0.040 percent. In terms of GDP in 2023, this translates into an annual loss of 131 to 651 million shekels.

Alternatively, had we examined the entire population rather than focusing on employees who reported a mismatch, the public sector effect (the coefficient) would have been smaller (Table 2A, column 3) and the aggregate effect would have been greater. Such an estimation would show a decline of between 0.033 and 0.115 percent, and in shekels — a loss ranging from 540 million shekels to 1.8 billion shekels.

Another issue is whether public sector productivity might have been adversely affected if these employees (who reported a mismatch yet did not leave their job), and specifically employees who have higher educational attainment than their occupational counterparts, and who are not searching a new job because they are employed in the public sector, would have changed jobs or moved to the private sector. In other words, the fact that relatively high-quality employees are not searching for a new job although they feel that they feel overqualified for their job, is due to the more convenient employment conditions (fringe benefits) in the public sector, which is how the public sector retains these employees.

In any case, the rough calculation above indicates that the public sector effect on productivity through an adverse effect on person-job match does not have a significant macroeconomic impact. Note that we assumed that there is no peer effect of

[13] For example, see the study by Assif and Har Tov (2020), where additional studies are cited.

productivity. Removing this assumption may significantly affect the relatively low estimate we presented above, and would increase it considerably.

7. Summary

Employment in the public sector is different from employment in the private sector in many aspects. The current study examined two aspects that have not been studied in Israel — person-job matching, and desire to change jobs— and their association to individuals' employment sector. Our understanding of these two factors also contributes to the global economic literature. In the current study we focus on the year 2019, which was relatively stable year in macroeconomic terms, and therefore better represents equilibrium in the labor market.

The study found that public sector employees' desire to change jobs is lower compared to private sector employees and this difference persists even after controlling for characteristics including education, age, occupation, and gender, and even when the empirical examination uses a two-stage method that addresses potential endogeneity concerns.

We also found that, overall, the lower the objective and subjective person-job fit, the greater the desire to change jobs. The difference between public sector and private sector employees' desire to remain in their current job is more significant for employees whose person-job fit is low.

We found that controlling for employee characteristics does not eliminate the gross difference in employees' desire to change jobs (which is lower among public sector employees), but employee characteristics explain, on average, approximately one third of the difference between sectors in the proportion of job seekers. The remaining difference stems from unobserved variables related to public sector employment, and we believe that a portion of this difference can be attributed to the employment rigidity in the public sector and to other employment benefits. In the *OLS* and *PSM* estimations, the largest difference in the desire to change jobs across the two sectors was found among educated men employees. However, the results of the two-stage estimation that

addresses endogeneity concerns show that the largest difference is in the group of women with children — which constitutes potential evidence of a mechanism related to risk aversion (which tends to be higher among women) or a preference for maintaining convenient employment conditions, and especially convenient work hours.

We performed a series of robustness tests. Our findings are valid even when we defined person-job fit objectively, and are also valid for the years from 2018 to 2021. Our findings show that the lower desire to change jobs in the public sector is pronounced for employees whose educational attainment is higher than that of their occupational counterparts.

Finally, we examined the implications of the association between public sector employment and turnover intentions on total productivity. Despite the statistically and economically significant robust association and its causal nature, our calculations show that this association has a negligible macroeconomic impact and clearly is unable to explain the low level of productivity in Israel.

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Appendixes

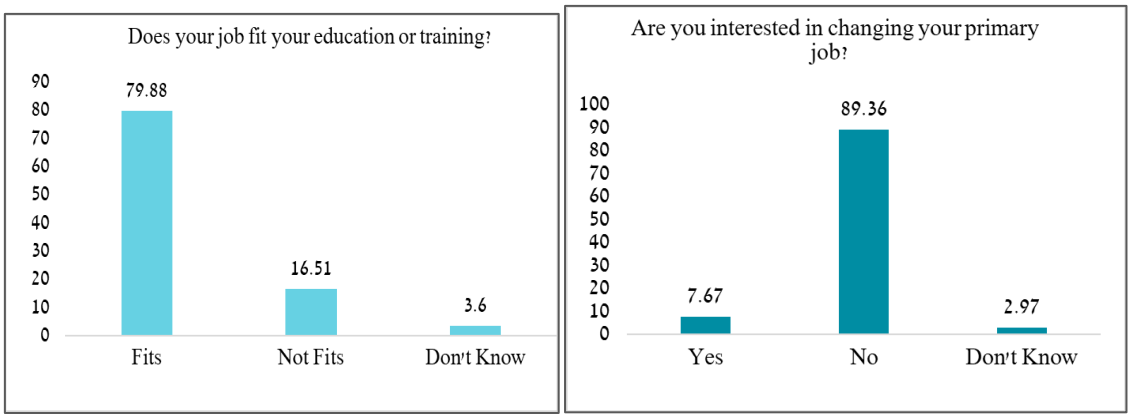
Appendix A – Analysis of "I Don't Know" Responses

We focus on respondents who selected "I don't know" as their response to either of the following two questions that appeared on the survey:

(1) Does your job fit your education or training?

(2) Are you interested in changing your primary job?

Figure A-1 presents the distribution of responses to these questions and indicates that a small proportion of all respondents answered "I don't know." Total respondents who selected "I don't know" as a response to one or both questions constitute 5 percent of the observations.

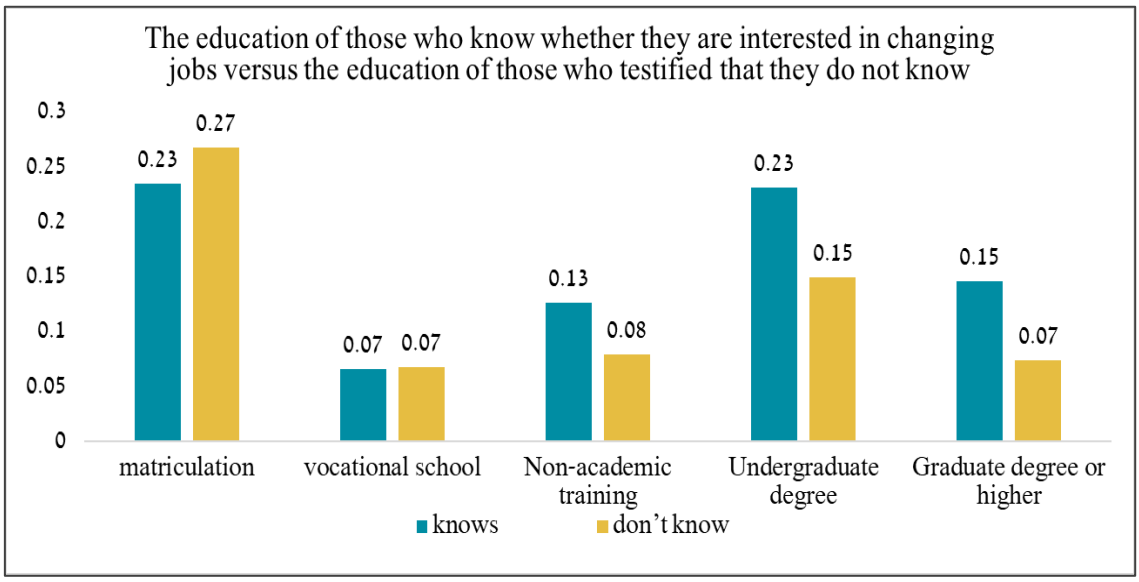


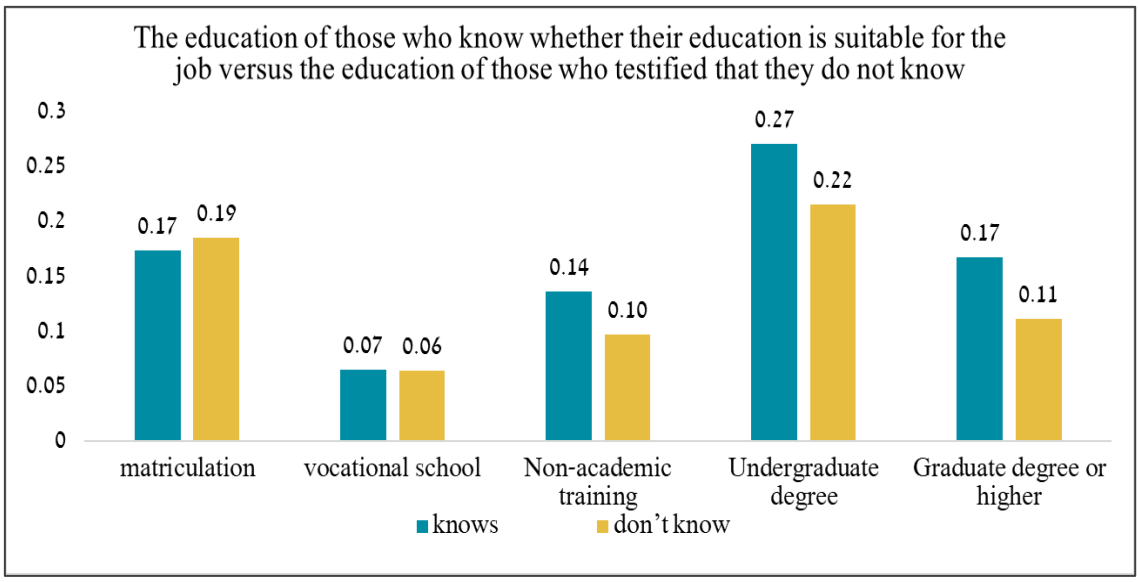
Appendix B – The Public Sector Variable

An individual was defined as a public sector employee on the basis of the new CBS sector classification MigzarTziburiAnafi (no. 259).

The new definition differs from the definition used by the Bank of Israel to date, which was based on one-digit primary public service categories. According to the new definition, one-fourth of all employees are defined as public sector employees. The following table presents public sector employees according to the new definition.

Table B1. Public Sector Employees by Industry, According to the New CBS Definition





Economic sector	N. of observa	public sector rate
Agriculture	997	-
Mining and quarrying	96	-
Construction	5,229	-
holesale and retail trade; repair of motor vehicles and motorcycles	10,336	-
Accommodation and food service activities	2,992	-
Information and communication	6,793	-
Financial and insurance activities	3,954	-
Real estate activities	1,075	-
Professional, scientific and technical activities	8,983	-
Administrative and support service activities	4,001	-
Transportation and storage	4,448	0.05
Manufacturing	11,110	0.05
Other service	2,920	0.11
Arts, entertainment and recreation	2,051	0.17
Human health and social work activities	12,173	0.38
Water supply; sewerage, waste management and remediation activities	429	0.46
Education	14,333	0.84
Electricity, gas, steam and air conditioning supply	453	1.00
Public administration and defence; compulsory social security	6,125	1.00

Appendix C. Commuting Index Based on Proximity to Locality of Residence

1	Employee works in their locality of residence
2	Employee works outside their locality of residence but in the district and region of residence
3	Employee works outside their locality of residence, district of employment is unknown
4	Employee works outside their locality of residence, in the district, and region of employment are unknown
5	Employee works outside their locality of residence, outside the district, and in a single locality
6	Employee works outside their locality of residence, outside the district, and in two or more localities.
7	Employee works outside the locality of residence, district of employment is unknown
8	Location of employment unknown
0	Not employed