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Diana B. Greenwald
Guy Grossman
Amir Levi

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Does greater public transit access increase employment for the Israeli-Arab Population? A Preliminary Analysis

Diana B. Greenwald* Guy Grossman† Amir Levi‡

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Abstract

In recent years, Israeli policymakers have identified greater economic integration of the Israeli-Arab population as a pressing priority. The Israeli-Arab population experiences persistent disparities in access to public services and low rates of formal sector employment, both of which have implications for Israel's political and economic future. Two recent government resolutions – Resolution 1539 (2010) and the larger Resolution 922 (2015) – have offered multi-sectoral approaches to promoting economic development in Israeli-Arab localities and, thus, greater opportunities for Israel's largest minority community. In this brief, we analyze the effect public transit interventions – an area of investment prioritized in both pieces of legislation – on employment outcomes for Israeli-Arab citizens. Using a new dataset of public transit availability and employment across 1,322 Israeli localities, we find that an increase in the number of bus lines servicing Israeli-Arab towns is associated with a small but significant increase in employment rates between 2011 and 2015. We do not see similar effects in Jewish-majority towns, and we do not find that alternative measures of public transit access (such as the daily frequency of bus line trips or the connectivity of a town to other larger towns and cities) have as much explanatory power. We discuss the implications of these findings for future research and for the ongoing implementation of Resolution 922.

*Postdoctoral Research Fellow, Middle East Initiative, Belfer Center for Science and International Affairs, Harvard Kennedy School.

†Associate Professor, Department of Political Science, University of Pennsylvania

‡Mossavar-Rahmani Center for Business and Government Senior Fellow, Harvard Kennedy School. Authors are listed in alphabetical order. The authors would like to acknowledge the helpful contributions from Inna Branzburg, Ron Gerlitz, and Rawnak Natour (Sikkuy); and Sharon Malki (Ministry of Transportation), Hagai Porges (Ministry of Welfare), Dan Rader (Adalya), and Mark Rozenberg (BTL). We would also like to thank Kyla Klein for her translation and research assistance. All errors are the authors' own.

1 Introduction

Despite years of strong economic growth, Israel faces an important and ongoing challenge: reducing inequality between the majority Jewish population and the country's minority groups, the largest of which are Arab citizens of Israel.[1] The situation of the Arab citizens of Israel is complex.[2] These complications, and related tensions between the Arab and the Jewish populations, date back to the founding of the state of Israel following the 1948-9 war (Morris, 1987). While Israeli Arabs have full citizenship rights, their integration into the Jewish-majority country is hampered due to their unique historical and political situation and ongoing regional conflicts. On the socioeconomic level, as we describe below, the Arab population faces inequality in access to education, housing, employment, and other public services.

There are many political, cultural and social challenges to full integration of the Israeli-Arab community. However, despite these challenges, Israeli policymakers from diverse positions on the political spectrum have recognized the urgency of increasing economic opportunities for the Israeli-Arab population. The Israeli government has therefore adopted a set of policies in recent years that prioritize social and economic inclusion of the Arab population. These efforts culminated in a program, initially proposed by the Ministry of Finance and the office of the Prime Ministry, entitled the "Economic Development Plan for the Arab Sector". This plan was adopted by the Israeli government as Resolution 922 on December 30, 2015 (Inter-Agency Task Force on Israeli Arab Issues, 2016).[3] Resolution 922 offered a multi-sectoral approach to economic inclusion, assigning 15 billion NIS (approximately 4.2 billion USD) over the 2016 to 2020 period, especially in the areas of education, public transportation and infrastructure, housing, employment, personal and community security.[4]

This brief focuses, in particular, on the specific role of investments in public transportation in increasing employment outcomes for the Israeli-Arab population. Even before the passage of Resolution 922, Israeli policymakers recognized that access to public transit in Israeli-Arab

[1] Israel also faces an important challenge of closing inequality gaps and increasing labor market participation among ultra-orthodox Jews. The structure of our data does not allow us to isolate the relationship between public transit access and employment for this sector. We view this as an important and promising avenue for future research.

[2] In this report, we use "Israeli Arabs", "Israeli-Arab population", and "Arab citizens of Israel" interchangeably. This population includes those Arabs who are citizens of the state of Israel – approximately 1.8 million individuals in 2016 – but it does not include Palestinian residents of East Jerusalem, most of whom possess a different residency status, nor does it include the Palestinian residents of the West Bank and Gaza.

[3] In 2015, the Authority for the Economic Development of the Arab, Druze and Circassian Sectors was moved from the Prime Minister's office to the Ministry of Social Equality. Since then, this ministry has been in charge of Resolution 922 and its implementation.

[4] The total amount allocated over the five-year period will depend on the application of the resolution's funding formulas and thresholds to each year's total budget.

localities is a barrier for economic integration. A government resolution in 2010 (Resolution 1539) promoted initial investment in public transit and related infrastructure in thirteen priority Israeli Arab towns. Subsequently, public transit was an area of continued focus in Resolution 922. At the time of writing, it is still early to evaluate the impact of investments associated with Resolution 922. However, in this preliminary analysis, we are able to assess the effect of expansions in the public transit system on employment in the years prior to Resolution 922 (i.e., between 2011 and 2015). This analysis has implications for future public transit investments in Israel and the implementation of Resolution 922 in the years to come.

Our analysis draws on a new dataset of public transit availability and employment across 1,322 Israeli localities. Further, we draw on several correspondences and meetings held with stakeholders to understand the background and policy landscape. In summary, our statistical analysis finds that an additional bus line in an Israeli Arab (or other minority) town produces a small, but significant, increase in female employment rates by approximately 0.17 percentage points and in male employment rates by approximately 0.12 percentage points. While the increases are relatively small, we estimate that investment in public transportation between 2011 and 2015 alone translated into 1,613 additional formal sector jobs in Israel's 116 Arab localities. We discuss these results in the final section of this brief and implications for future implementation and evaluation efforts as the public transportation portion of Resolution 922 proceeds. We suggest that additional research on the actual usage, not just availability, of public transit in minority towns will assist in refining the causal mechanisms that may be driving our analysis. Further, our findings provide suggestive (yet admittedly not conclusive) evidence that investments in foundational infrastructure and road improvement – as a necessary first step prior to the introduction of new buses – is a worthy priority for future policy in marginalized towns. Finally, we note that there may be many other factors unrelated to transportation that continue to depress employment outcomes in Israeli-Arab towns. Additional research is needed to address and isolate the complex factors that are preventing greater inclusion of Israel's largest minority community.

2 Existing Research

A robust body of research in labor economics, transportation studies, and urban planning examines the link between public transit accessibility and economic outcomes, including employment. The findings from this literature are important in framing our analysis and interpretation of the data from the Israeli case.[5]

[5] Access to public transit is commonly operationalized as the availability of modes of transit within sufficient proximity to individuals' starting location and desired destination at a non-prohibitive cost.

In thinking about how public transit might impact employment, some of this literature has focused on the distinction between spatial versus social mismatch between job-seekers and employment opportunities. The foundational spatial mismatch studies assume that job-seekers are not always optimally located in close proximity to available jobs, and transport and mobility costs underpin this "mismatch" (Zenou, 2009). Reducing the distance prospective workers have to travel, or the costs of traveling that distance, may increase employment: for example, Phillips (2014) finds that subsidizing transit costs increases the job search intensity of urban poor.

However, other studies have suggested there are additional factors that might drive unequal outcomes across groups. For example, spatial mismatch may, in turn, create network effects that drive "social mismatch" (Zenou, 2013). Scholars have attempted to explain depressed employment rates among minority populations in a range of settings by further refining spatial and other forms of mismatch between job-seekers and employment. For example, Hellerstein, Neumark and McInerney (2008) find that it is not simply the lack of available jobs in neighborhoods where black men live in the United States that diminishes their employment prospects, but also the racial composition of those who hold the available jobs that shapes opportunities for these men. In still other cases, research suggests that it may not be location-based, social, or racial mismatch, but "modal mismatch", where access to private modes of transit (i.e. in the form of an automobile) accounts for differences in employment opportunities and outcomes (Grengs, 2010; Blumenberg and Manville, 2004).

All of the aforementioned work has implications for how we approach public transit interventions in multi-ethnic societies, such as Israel, that may feature some combination of spatial mismatch, group-based mismatch (based, for example, on histories of inequality in resource allocation and in employment opportunities), and other observable and unobservable sources of inequality. In such settings, increasing the provision of public transportation may be sufficient to overcome some, but not all, barriers to minority group inclusion. In fact, acknowledgement of the multi-faceted nature of inequality in Israeli society is what motivated the comprehensive approach adopted in Resolution 922 in 2015.

3 Socioeconomic Situation of Israeli Arabs

While Israeli-Arab citizens have access to the full spectrum of formal rights, many possess a distinct religious, cultural, and ethnic identity that has higher salience than citizenship-based forms of identity (Smooha, 2013). Most Israeli-Arabs still express support for coexistence between Arab and Jewish citizens and a preference for living in Israel rather than elsewhere,

yet the challenges to integration and equality remain formidable due to the unique history of this population.

Israeli Arabs represent about 21% of the country's population of 8.5 million citizens. Given the sector's relatively high birth rate (outpaced only by the ultra-Orthodox Jewish population), the share of Arabs is expected to increase to over 23% in the next 30 years. Compared to the Jewish population, Israeli Arabs are poorer and less educated.[6] For example, the poverty rate in the Arab sector (53%) is significantly higher than the Jewish sector (14%), in part reflecting large disparities in income: in 2015, the mean income of an Israeli Jew (11,764 NIS) was close to 60% higher than that of an Israeli Arab (7,412). As for education, while 22% of the Arab population is between the ages of 18 and 29, the share of Arab students of all college students in Israel is 13, 10, and 5 percent for BA, MA, and PhD degrees, respectively.

Further, the majority of Israeli Arabs lives in localities with urban characteristics: Arab cities, relatively homogenous neighborhoods in mixed cities (such as Haifa, Acre, and Jerusalem) and local councils associated to larger urban regional councils. Arab towns, in which about three-quarters of Israel's Arab population resides, tend to be poorer and are governed by local authorities that have fewer resources and lower administrative capacity. A limited number of sources of income (e.g., commercial and industrial areas) and the low socioeconomic status of their residents significantly harms the financial stability of Arab municipalities and local authorities, leaving them with more limited options to support, develop, or improve their residents' welfare (Figure 1).

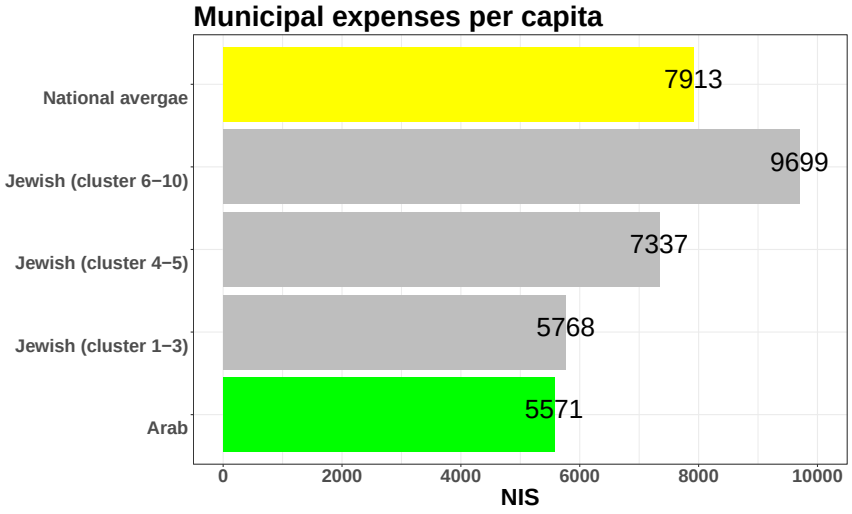

Figure 1: Municipal expense per capita. Source: Government of Israel (2016).

[6]As mentioned above, Ultra Orthodox Jews also suffer from low socio-economic conditions. Exploring the effectiveness of government policies to increase education, skills and labor market participations of this sector is beyond the scope of this paper.

Tellingly, Arab municipalities are in an average socio-economic cluster of 2.3 (on a 1-10 scale), compared with a 6.0 average socio-economic cluster of Jewish municipalities. With fewer sources of revenue to spend compared to national benchmarks, residents of Arab localities receive low levels of public services compared to the general sector. For example, in 2015 the average annual expenditure on a high school student in the public system was 31,956 NIS for students in Jewish towns, but only 18,289 in Arab towns (Government of Israel, 2016).

As with other public services, access to public transit in Israel is unequal across Jewish and Arab communities. According to the Ministry of Transportation, in 2012, the number of weekly bus trips per resident in the Arab sector was only about 17% of a resident of the Jewish sector (Figure 2, right-panel). Similarly, the weekly distance traveled by Arab residents was estimated to be only quarter of their Jewish counterparts (Figure 2, left-panel). While public transit is only part of the ethnic-based socioeconomic gaps, as suggested in the research above, inadequate availability of public transit has wide-ranging implications for access to education, employment, and other forms of economic activity.

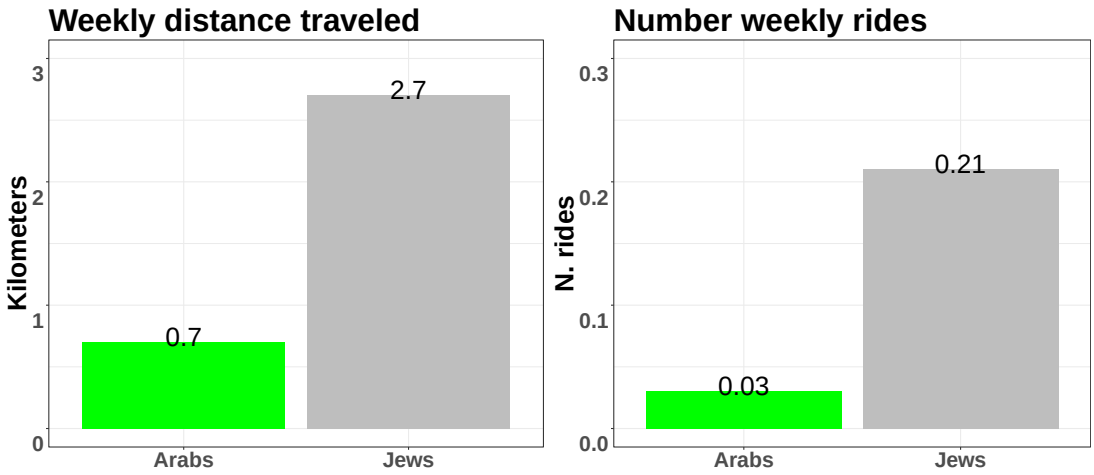

Figure 2: Gaps in public transportation services between Jewish and Arab localities. Source: Government of Israel (2016), based on data assembled by the ministry of transportation in 2012.

A highly consequential report published in 2016 by a cross-ministerial task force reaffirmed the Ministry of Transportation's 2012 estimates. The task force identified large gaps in the level of accessibility to public transportation between Jewish and Arab towns, especially with respect to the range of destinations and the frequency of lines servicing communities (Government of Israel, 2016). Some of the Arab communities were found to suffer from a total lack of access to public transportation, and in other localities, the level and quality of access to public transportation was very low. 41 percent of Arab localities had no public transportation

access in 2009, and an additional 43 percent had only low-level public transportation services. In addition, the state of transportation infrastructure in Arab communities at the time of the report's publication was exceedingly low compared with the state of infrastructure in Jewish localities. This situation stems, in part, from long years of budgeting mechanisms that did not use needs-based criteria, and because of the economic situation and low capacity of Arab municipalities hindered investment in public transport infrastructure.

4 Government Resolutions

4.1 Resolution 1539 (2010)

The Arab citizens of Israel have, compared to the Jewish population, lower human capital (skills and education), and lower formal labor market participation rates. If these characteristics of the population remain more or less unchanged, Israel's economy is expected to retract quite significantly in coming years simply due to demographic trends. A growing recognition among Israel's decision makers of this dire projection helps to explain the adoption of several government resolutions designed to begin closing gaps between Jewish and Arab Israelis.

In 2010, the Israeli government passed Resolution 1539 – a precursor of the larger program which was to follow in December 2015. In resolution 1539, 13 minority towns were selected for targeted investment in the areas of economic development, employment, housing, and public transit.[7] The Ministry of Transportation was tasked with implementing the public transit component of the program, which was allocated a total budget of 101 million NIS: 72.5 million of which was designated directly for the ministry and 28.5 million in supplemental funds managed by the Economic Development Authority in the Prime Minister's office. The legislation outlined focus areas such as: operating public transit lines within minority towns; connecting these towns to major thoroughfares and traffic arteries; operating intercity bus terminals; upgrading roads within towns; and establishment of transportation terminals.[8] While these areas were identified as priorities for the new program, the ministry retained a wide amount of discretion in how the funds were to be put to use in the identified localities.

The thirteen towns were selected using a threshold criteria based on, first, towns being above a certain size and, second, having an elected, local leadership that had exhibited sound fiscal management. Further, towns were required to possess at least a basic level of infrastructure. Infrastructure in the towns was an important constraint, as it determined where the bus

[7] One of these towns, Taybeh, was only added in early 2013.

[8] The legislation is available at: https://www.gov.il/he/Departments/policies/2010_des1539.

operators could expand their operations, depending on the quality of roads, the narrowness of the roads, and the topography.

4.2 Resolution 922 (2015)

In December 2015 the Israeli government approved Resolution 922, a comprehensive multi-sector landmark plan to increase investment in Arab communities in Israel, emphasizing the areas of education, public transit and infrastructure, housing, employment, and security (Inter-Agency Task Force on Israeli Arab Issues, 2016). In each of these sectors, resolution 922 stipulated new rules for allocating portions of the national budget to the Israeli-Arab and other minority communities. Based on the application of these rules to 2015 budget figures, the plan would result in an allocation of 15 billion NIS (approximately $4.2 billion) over five years to Israeli-Arab and other minority communities. The goal of the public transit part of both resolution 1539 and 922, in particular, was to connect Arab localities that were previously unconnected, or inadequately connected, to the public transportation infrastructure.

Resolution 922 stipulated that either 40% of the national development budget or 100 million NIS per year (whichever is greater) will be allocated to transportation services in Israeli-Arab communities, with the goal of closing the gap in access between Israeli-Arab and Jewish communities entirely by 2022. In addition, the Ministry of Transportation is tasked with improving accessibility of transport data, such as information regarding schedule, prices, and so on, both online and on-site, in Arabic. Unlike the earlier 2010 resolution 1539, Resolution 922 did not restrict its activities to a rigid list of priority towns, but instead its programs could be extended to all localities that had a non-Jewish (i.e. Arab, Druze, or Circassian) majority.

In 2016, the first year of implementation, funding was invested in new road construction, the introduction of Arabic language information on public transit services, and the introduction of new bus lines and extension and expansion of existing lines (Inter-Agency Task Force on Israeli Arab Issues, 2017). Below, we look at the earlier period preceding resolution 922 to assess whether increases in access to public transit – measured in the number of bus lines, the connectedness of a town to other cities, and the frequency of bus trips serving a given town – is associated with increases in formal sector employment. We analyze these relationships separately for Jewish towns and for non-Jewish minority towns. If public transit policy measures are having a discernible effect on employment outcomes—especially in non-Jewish towns—this will be a good signal for the future of resolution 922. In particular, it will suggest that increasing access to public transit, by itself, can have a tangible effect on the economic inclusion of the Israeli-Arab population.

5 Data and Analysis

To explore the relationship between investment in public transit and employment in Israel, we compile an original town-year dataset, which includes information on employment, public transit, and other relevant variables for 1,322 towns across Israel, 116 of which have a non-Jewish majority of their population (see Table 1). The vast majority of those 116 non-Jewish towns are majority Arab.

Our employment data comes from individualized social security and tax records from the Israeli National Insurance Institute (Bituach Leumi), and thus is not subject to the same biases as self-reported data. It includes variables on the size of the working-age population and the number of employed people by gender, from which we create measures of the overall ($EMPRATE\_T$), male ($EMPRATE\_M$) and female ($EMPRATE\_F$) employment rates. The dataset also includes information on the mean and median income by gender for each town in our dataset. The data covers 2000 to 2015, thus we are able to examine employment outcomes following Resolution 1539 (2010) but, at least in this initial study, not following Resolution 922 (2015). Further, it is important to keep in mind that our data reflects employment rates and median incomes for *Jewish residents of Jewish towns* and *Arab residents of Arab-majority towns*, however it does not include data for *Arab residents of Jewish-majority or mixed towns*.

Figure 3 shows the trend in employment rates by gender for Jewish and non-Jewish towns from 2000 to 2015 (left panel) in addition to the trends in median incomes by gender over the same period (right panel). A vertical line is drawn at 2011, the first year that the policies associated with Resolution 1539 would have begun. Starting with male employment, there is little difference in employment rates; however, male Jewish workers earn significantly higher incomes that their Arab counterparts. For example, in 2015, the median income for an employed male in the formal sector residing in a Jewish town was $9,907$ NIS (when averaged across all Jewish towns), but only $6,668$ for an employed male residing in a non-Jewish town.[9]

As for female employment (Figure 3, bottom-left panel), in recent years Israel has witnessed a sizable increase in share of women employment in Jewish towns (from 58% in 2000 to 68% in 2015), and a rather dramatic (72% percent) increase in the share of women employment in non-Jewish towns (from 25% in 2000 to 43% in 2015). Interestingly the income gap between employed women residing in Jewish towns and those residing in non-Jewish towns has also increased over this period: while in 2000 the mean income gap for employed women

[9]Low rates of labor force participation by ultra-Orthodox males likely reduce the average employment rates for Jewish towns.

in the formal sector was 2,381 NIS, the gap rose to 3,254 in 2015 (Figure 3, bottom-right). This suggests that the increase in female employment in the Arab sector is disproportionally concentrated among low-skilled workers. Figure 4 shows similar information for the non-Jewish towns only, distinguishing between those that were prioritized by Resolution 1539 and those that were not. We can see that the priority towns followed nearly identical trends in male and female employment and incomes prior to the intervention.

There are a number of reasons why female labor force participation rates are relatively low in the Israeli-Arab community, including location, fertility rates, religious affiliation, and traditional gender norms (Lewin-Epstein and Semyonov, 1992; Yashiv and Kasir, 2013). Israeli-Arab women are often engaged in informal forms of work; marriage and motherhood are associated with lower participation in the formal labor market, as women take on more household and family tasks (Miaari, 2012; Khattab, 2002).

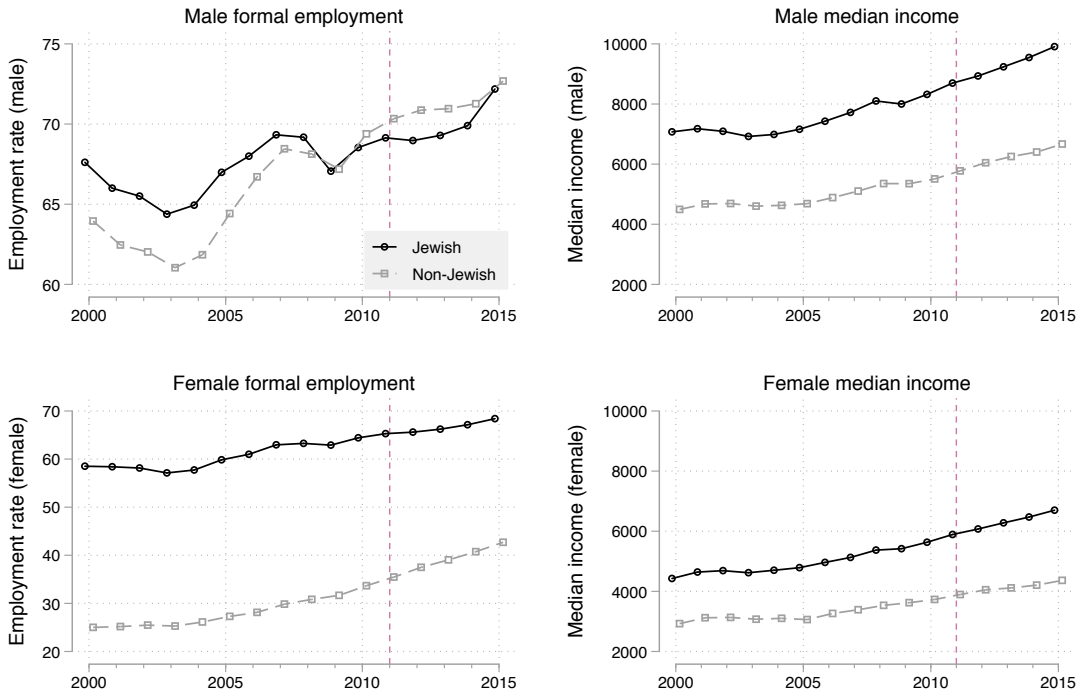

Figure 3: Figure provides information on male and female employment rate and median income (nominal New Israeli Shekels, NIS) in the formal sector by year, for both Jewish and non-Jewish towns. Formal employment is weighted by the total size of the workforce in each town, while median income is weighted by the number of workers employed in the formal sector.

Our data on public transit comes from Adalya, a consulting firm that worked with the Ministry of Transportation to implement its spending program in Arab communities. The transit data includes information on the number of unique bus lines that services a town

($LINES$), the number of mandated bus trips ($DAYTRIPS$), and, for a smaller number of towns, the number of cities greater than 20,000 residents to which that town is directly connected, without transfer, by public bus ($CONNECT$). Note that $DAYTRIPS$ does *not* measure actual usage of the public bus system, but instead measures the frequency of bus service to a town.[10] Transit information at the town-year level is available from 2011 to 2016.

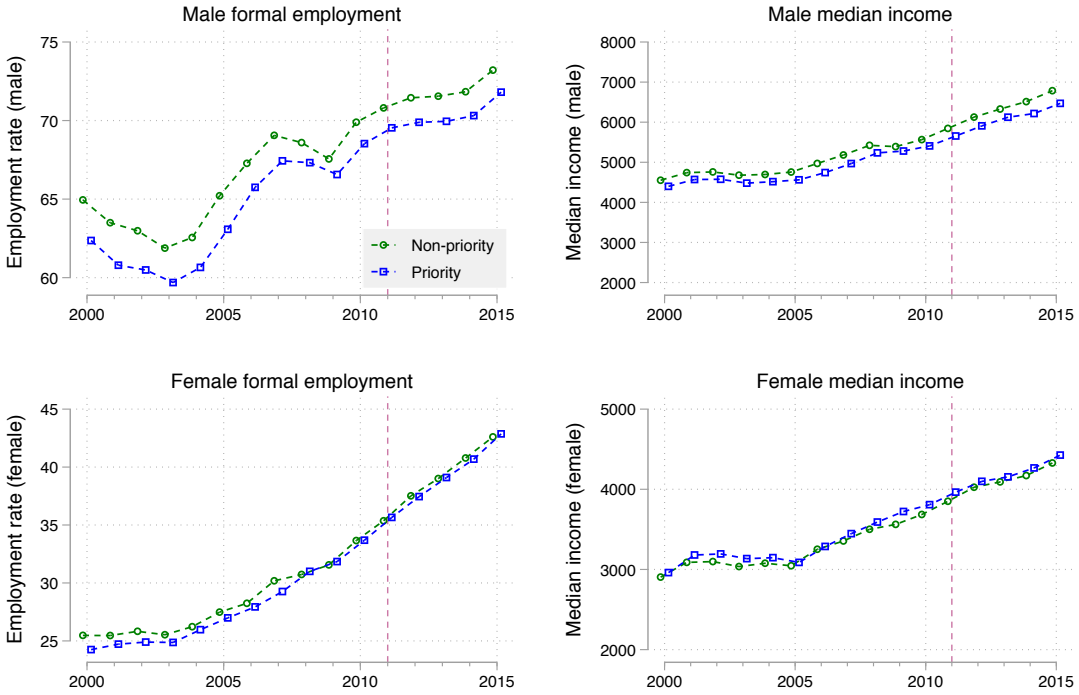

Figure 4: Figure provides information on male and female employment rate and median income (nominal New Israeli Shekels, NIS) in the formal sector by year, for non-Jewish "priority" and "non-priority" towns, as defined by Resolution 1539. Formal employment is weighted by the total size of the workforce in each town, while median income is weighted by the number of workers employed in the formal sector.

Figure 5 provides information on the recent trend in the three public transportation variables. The figure shows that, following government resolution 1539, some (*but not all*) transportation service gaps between Jewish and non-Jewish towns are closing. First, focusing on the number of lines servicing Jewish and Arab towns is almost equal (top-left panel). Interestingly, while in 2012, on average, non-Jewish towns had 8.05 lines, by 2016 the average increased to 8.93 – almost one additional line for each town. However, when broken down by priority status (top-right panel), it is evidenced that this increase is disproportionally concentrated in those towns identified as priority towns in resolution 1539, where the average number

[10]Day trips are measured for a given work week Tuesday.

of lines increased from 18.5 to 21.5 (about an 18% increase over the period). In non-priority Arab towns, the number of lines increased, but at lower rate: from 6.34 lines to 7.01 lines, or a 12% increase over the 2011-2016 period.

The closing of the transportation gap is even more pronounced for the total number of mandated daily bus trips (on Tuesdays) servicing each town – a measure of the frequency of bus service for each town.[11] In 2011 Jewish towns, on average, had 119 day trips compared to 101 day trips of lines servicing non-Jewish towns; by 2016 mean total number of day trips in Arab towns slightly surpassed Jewish towns: 146 to 141 (Figure 5, middle-left panel). Again, consistent with the focus of Resolution 1539 on a relatively small number of priority towns, the mean total number of day trips in priority towns increased by 45% from 277 to 402 over the 2011-2016 period (middle-right panel).

However, it is important to note that even though both the number of unique lines and the number of total trips increased over the period, Arab towns were not connected necessarily to many additional towns in 2016, as compared to 2011 (5, bottom panel). Consider, for example, the Arab priority towns: in 2011 they were connected, on average, to 25.9 other towns with population greater than 20,000 residents, while in 2016 the figure increased to 26.9 or less that 4% increase. For non-priority Arab towns the connectivity increase is slightly larger (10% from 11 to 12.3), but still a far cry from Jewish localities that are connected on average to about 33 large towns.

5.1 Descriptive Results

What is the relationship between changes in public transit provision and employment? The four panels of figure 6 plot the relationship between change in the number of bus lines between 2011 and 2015 and the change in male (bottom panels) and female (top panels) employment over that period. While we do have observations on our transportation variables from 2016, our employment data only covers through 2015, so we focus on change up until that year in the figures below.[12] The left panels show non-Jewish towns, and the right panels show Jewish towns. We do not see a positive relationships in these subsamples, with the exception of a very slight positive slope for female employment rate in the non-Jewish towns.

Note that while informative, the plots in Figure 6 pool together towns of all sizes and are only depicting bivariate relationships. If new bus lines were added in towns that were more likely to see *increases* in employment rates over the four-year time period for unrelated

[11] The day trips is winsorized to adjust for 2% of extreme values.

[12] In these plots, we drop observations in the second percentile and lower and the 98th percentile and higher in $\Delta LINES$ and ΔEMP.

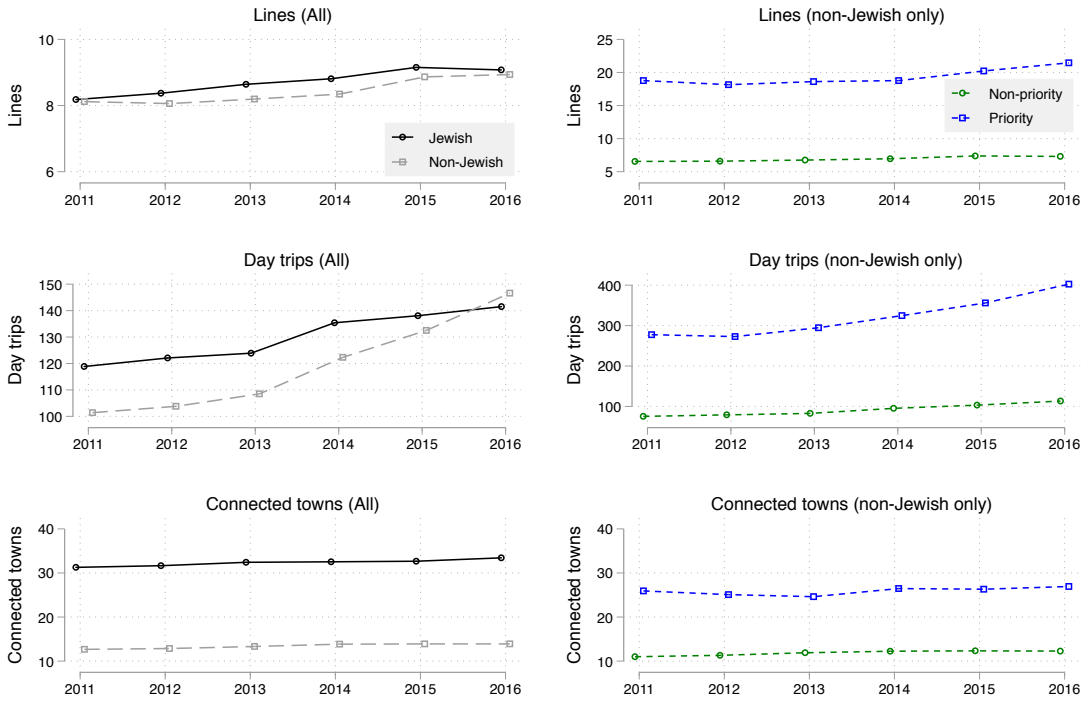

Figure 5: Figure provides information on the number of lines and number of day trips by year, for both Jewish and non-Jewish towns (left-panels). In the three right panels, the data is subsetted to only include non-Jewish town and then broken down by whether or not the town is one of the 13 priority Arab towns.

reasons, then these plots could be overestimating the association between change in bus lines and change in employment. Conversely, if lines were added to towns that were more likely to see *decreases* in employment rates over this time period, then these plots may be underestimating the association between change in lines and change in employment. Below, we turn to multivariate analysis, exploiting town- and year-level variation, to understand how changes in public transit shape employment outcomes.

5.2 Regression Results

We run a set of two-way fixed effects models regressing employment rate (overall, male, and female) on each of our independent variables separately ($LINES$, $DAYTRIPS$, and $CONNECT$). Note that $DAYTRIPS$ is winsorized to replace extreme outliers. All models include locality indicators, year indicators, and locality-specific time trends. We interpret the coefficients on our variables of interest as the effect of a one-unit increase – i.e. an additional bus line, an additional connected city, or an additional daily trip – on employment

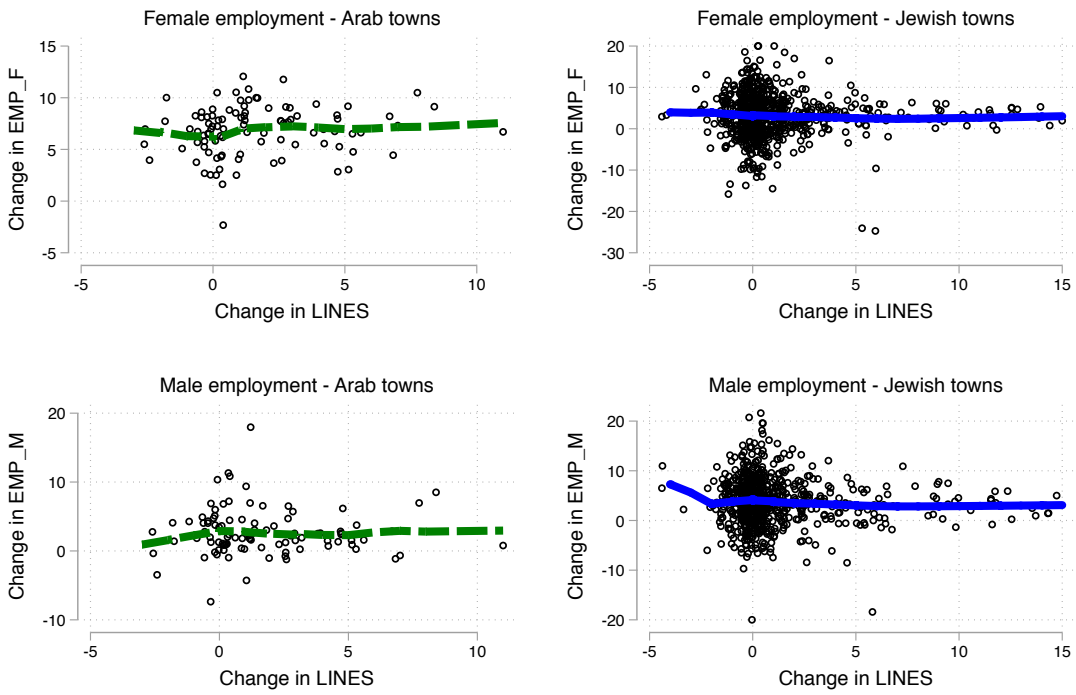

Figure 6: Figure plots change in the number of bus lines serving a town between 2011 and 2015 by change in the male (bottom panels) and female (top panels) employment rates over the same period. The results are broken out by minority/Arab towns (left panels) and Jewish towns (right panels).

rates. These coefficients are purged of any time-invariant factors that are specific to individual towns, year-specific shocks that affect the whole sample, and time-varying trends within towns.

In other words, all *fixed, time invariant* reasons that a particular town is more likely to have better employment outcomes – for example, being located closer to an urban center – drop out and do not impact at all the estimated effects of public transit. Further, if some specific shock affected employment outcomes equally across the sample in a particular year, we are also able to account for this in our estimation strategy. Finally, the underlying *trend* of employment outcomes for each town due to all other factors except the public transit intervention is also taken into account and thus these town-specific trend will also not impact our coefficients of interest.

Our study's main results are presented in Table 2: for change in number of unique lines servicing a locality (top panel); for change in the number of day trips (middle panel); and for changes in the number of connected towns (bottom panel).

Starting with changes in the number of unique bus lines (top panel), we find no discernible

effect on formal employment in Jewish towns, but we observe a positive, significant effect on both male and female formal employment in minority (non-Jewish) towns. Similarly, when exploring the effect of connecting a locality to one additional town of at least 20,000 residents (the bottom panel of Table 2), we only find significant effects for non-Jewish localities. Note that we have a smaller number of observations for which the connectivity variable was available, so the results we observe here should only be generalized to the full sample with caution. Moving to the middle panel of Table 2, which reports the effects of change in the number of scheduled bus trips per town on a Tuesday, we do not find that an additional daily trip is associated with greater employment in either Jewish or minority towns.

Given that the three proxy variables for public transit—lines, frequency of bus rides and connectivity to other towns—produce slightly different results, we turn to compare the relative effects of these variables in a single framework. In Tables 3–4, we estimate models that include all of these variables together. In Table 3, the outcome of interest is female employment ($EMPRATE\_F$), and in Table 4, the outcome is male employment ($EMPRATE\_M$). Again, we run these estimations separately for Jewish and non-Jewish towns and for the combined sample.

Since two-way fixed effects models only parse out time-invariant town-level factors, in the last three columns of each table, we add a relevant *time-variant control* – namely, the number of children enrolled in state-provided daycare centers per 1,000 people ($KIDSPOP\_W$).[13] Starting with female employment (Table 3), we find that when all three transit variables are included, only the number of lines remains positively correlated with female employment in non-Jewish towns. Holding constant connectedness of a town and the frequency of bus trips in that town, we observe that an additional line is associated with an increase of female employment by 0.20 percentage points. Importantly, this relationship remains positive and significant also after controlling for daycare availability. While the inclusion of $CONNECT$ reduces the size of our sample, we are encouraged to see that the estimated effect of $LINES$ remains significant for female employment in minority towns.

While not shown here, we also explore whether the effect of new bus lines is conditional on the size of towns and whether or not they are located in the periphery.[14] We do not find evidence that either peripherality nor population size moderate the relationship between bus lines and employment. In addition, we estimate models of female employment in minority towns dropping towns that are extreme positive outliers in terms of aggregate change in female

[13] As with $DAYTRIPS$, this variable is also winsorized to adjust extreme outliers. The Ministry of Welfare provided us with information on the number of children enrolled in daycares by town and year.

[14] Peripheral town are ones that their residents receive tax benefits since the government considers them located "in the periphery."

employment from 2011 to 2015 and with a winsorized version of $LINES$, and the magnitude and statistical significance of the coefficient on lines does not change. This increases our confidence that the result linking bus lines to female employment is not driven by outliers. In other words: neither Arab towns that have a very large number of bus lines compared to all other towns nor Arab towns that saw very dramatic changes in female employment rates during this period are not driving our results. Finally, we also estimated a version of our main regression of employment outcomes on the number of bus lines (top panel of Table 2) where we use the natural logarithm of the number of lines instead of the raw number of lines as our main independent variable ($log(LINES)$). If the effect of an additional bus line was larger for towns that started out with much fewer lines as compared to towns that already had a large number of lines – in other words, if there were decreasing marginal returns to the addition of bus lines on employment – we would expect $log(LINES)$ to be significant. However, we do not find any significant effect between $log(LINES)$ and employment outcomes.

Moving to male employment (Table 4), the coefficient on $LINES$ remains significant at a slightly lower level than the results with female employment when all transit variables are included in the model. In column 4, however, when the daycare variable is included, the effect of $LINES$ is similar in magnitude as column 1 but no longer statistically significant.

We conclude that, at least in the 2011-2015 period, adding new bus lines seems to be the most consequential form of public transit expansion for formal employment in Arab localities. Below, we attempt to capture the size of these effects on employment at the aggregate level. The subsequent section concludes with some discussion of the implications of these results for policy and research moving forward.

5.3 Robustness Checks

We report two additional checks to evaluate the robustness of our core results. First, we use an alternative definition of the working-age population to include only those between 25 and 65 years old. If employment among 18- to 24-year-olds is systematically more likely in the Arab towns, this could undermine the implications of our comparative analysis across Jewish and Arab towns. When we restrict our attention to the 25-65 age range, we still see that our main results hold (see tables 5, 6, and 7).

Second, we incorporate employment data from 2016, the first year of implementation of Resolution 922. While we do not expect the investments associated with Resolution 922 that began in 2016 to have an immediate, large-scale impact, extending our analysis to include one more year of data will allow us to assess whether, for example, the relationship we observe

between bus lines and female employment in minority towns still holds. Indeed, our results (reported in tables 8, 9, 10) do show that the effect of lines on female employment remains positive and significant, albeit the magnitude of the effect is smaller.

6 Discussion

Given the apparent importance of adding lines, we turn to estimate the substantive implications of adding lines on formal employment. As shown at the top panel of Table 2, every additional bus lines in Arab towns increases male employment by 0.12 percentage points and female employment by 0.17 percentage points. Using data from the Israeli National Insurance Institute, we estimate the total size of the working age population across all 116 non-Jewish towns to be $347,279$ and $340,768$ for male and female, respectively. Multiplying the average change in bus lines in Arab localities over the period (1.62), size of those labor market and the regression coefficients, we estimate that between 2011 and 2015 investment in public transit culminated in 675 formal sector jobs for men and 938 jobs for women residing in Arab towns.

Since we saw above that the increase in lines was uneven across Arab towns' priority status, we further reestimate our "lines" regression model separately for Arab towns that were and were not prioritized in Resolution 1539. We find that female employment in Arab towns responds much more positively to an increase in the number of bus lines in priority towns (point estimate=0.24, p-value= 0.029) as compared to non-priority towns (point estimate=0.13, p-value= 0.020). By contrast, male employment seems to have only increased in the thirteen priority towns (point estimate=0.23, p-value= 0.032), but not elsewhere (point estimate=0.06, p-value= 0.437).

On one hand, this provides validation that increased investment does have an impact: our findings suggests that employment gains in Arab towns in 2011-2015 due to public transit investments took place almost exclusively in areas where most investments were made prior to government Resolution 922. On the other hand, the fact that we find that the effect of adding lines on formal employment is concentrated in a small number of towns specifically targeted by the 2010 resolution also raises some questions. First, these thirteen towns benefited most from additional targeted investments in that period (as part of resolution 1539), and so there is a possibility that the gains in employment may be due to investments in these priority towns over the study period that are unrelated to public transit. Second, the thirteen priority towns are not similar to other Arab localities: they are bigger, have better infrastructure, and are far better governed than an "average" Arab town. We cannot say with certainty whether all Arab-majority towns could reap the same employment benefits as these priority towns

following an investment in public transit.

In summary, we find initial evidence that an increase in the number of bus lines serving non-Jewish (Arab or other minority) towns has a significant positive relationship with formal employment outcomes.[15] This relationship seems to be somewhat stronger and more robust for Arab women as compared to men. Looking at the reduced sample of towns for which we have data on a range of variables – including the extent of connectivity by public bus to other large towns and cities, and the number of children in government-provided daycare – we still observe a significant association between bus lines and female employment in Arab towns.

We conclude with several disclaimers about the analysis thus far, and point to directions for future research. First, is worth emphasizing that our analysis of implications of investments in public transit relies exclusively on data that measures *access* and *availability*, but not actual *usage* of public bus lines in these towns.[16] The natural next step in this research would be to integrate data on actual usage of public transportation, to ensure that the introduction of new bus lines, the increased frequency of lines, and the introduction of new connections to larger towns and cities actually results in increased uptake of public transit services by Israeli Arab residents.

Second, the dual challenges remain of increasing the number of bus stops *within* towns and also upgrading infrastructure so that new bus routes can be introduced in areas that were previously inaccessible. For many Arab towns, even if they are served by a bus line, the bus only stops on the main road inside the town or on the road just outside the town, rather than on the streets inside the town. In future analysis, we might observe larger and more robust effects if the introduction of new bus lines was accompanied by greater efforts to service the interior of towns and to upgrade the road systems. Indeed, adequate local infrastructure is a prerequisite for the introduction of new public buses.

Third, it is important that public transit interventions adopted at the national level – as part of Resolution 922 and beyond – be driven by local-level demand. In our research for this report, we learned about the efforts of NGOs such as Sikkuy, that have convened local public hearings and meetings in a selection of Arab-majority towns to define the locality's public transit needs. These efforts led, for example, to an increase in the frequency of bus trips in the community of Isfiya to a local university based on the students' needs (Correspondence

[15]Note that our regression estimates would be downward biased if public transit increased employment in the informal sector (not captured by official Bituach Leumi data).

[16]Relatedly, we conduct an auxiliary analysis using an alternative measure of public transit connectivity, developed by Adalya, based on residential coverage. Specifically, Adalya split towns into small residential grids (250× 250 meters), and constructed a *coverage* measure that is equal to the share of grids that are serviced by a bus line. Unfortunately, Adalaya has this measure for only 2012 and 2017. Regressing change in employment in that period on the change in this coverage measure did not produce significant findings.

with the authors, May 22 2018). While our results suggest that the introduction of new lines has positive welfare implications beyond connectivity, policies should be tailored to local contexts and needs.

Forth, we note that the effects of public transit investment on employment outcomes may be modest so long as other factors unrelated to transportation are simultaneously depressing employment among the Israeli-Arab community. For women, these factors may include the traditional importance of women in non-formal employment in the household that are substituting for, or precluding, entry into the formal labor market. However, as the demographic trends show, increasing integration of Israeli-Arab women into the labor market could make sizable contributions to Israel's long-term economic growth. Public transit could be just one piece of the puzzle.

Finally, we wish to remind our readers that an effective public transit system is important for reasons other than employment. Public transit systems improve citizens' welfare also by increasing leisure opportunities, improving the ability to visit friends and family, and improving accessibility to high education institutions. Measuring the effect of public transit on such outcomes is another important avenue for future research.

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	count	mean	sd	min	max
LINES	5477	8.7	23.9	0	466
DAYTRIPS	5477	191.3	917.1	0	17322
CONNECT	1302	20.4	17.5	0	96
EMPRATE_T	20067	62.9	14.7	2	100
EMPRATE_M	20008	67.2	14.7	2	100
EMPRATE_F	19937	59.3	17.6	1	100
KIDSPOP_w	3012	34.9	31.6	0	144
N	21154				

	count	mean	sd	min	max
LINES	4829	8.7	25.2	0	466
DAYTRIPS	4829	199.8	973.6	0	17322
CONNECT	490	32.0	17.5	4	96
EMPRATE_T	14250	66.3	12.1	3	100
EMPRATE_M	14231	68.3	13.7	9	100
EMPRATE_F	14233	64.4	11.8	8	100
KIDSPOP_w	2264	37.8	30.5	0	144
N	15206				

	count	mean	sd	min	max
LINES	648	8.7	10.6	0	90
DAYTRIPS	648	127.8	200.6	2	2431
CONNECT	812	13.4	13.3	0	67
EMPRATE_T	1825	49.7	9.4	7	81
EMPRATE_M	1825	68.0	8.2	17	100
EMPRATE_F	1818	32.0	12.0	2	79
KIDSPOP_w	362	7.4	9.5	0	108
N	1956				

Table 1: Descriptive statistics of the full sample (top), the Jewish-majority towns (middle) and the non-Jewish towns (bottom).

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
LINES	-0.011^{+}	0.144**	-0.007	-0.016	0.116^{+}	-0.012	-0.007	0.170***	-0.003
	(0.006)	(0.044)	(0.006)	(0.011)	(0.066)	(0.010)	(0.005)	(0.045)	(0.005)
Observations	3876	519	4395	3876	519	4395	3875	519	4394
R^2	0.884	0.908	0.882	0.836	0.682	0.806	0.817	0.948	0.863
Adjusted R^2	0.855	0.882	0.851	0.793	0.593	0.756	0.770	0.933	0.828

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
DAYTRIPS (w)	-0.000	0.001	-0.000	-0.000	-0.001	-0.000	-0.001*	0.002	-0.001
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.000)	(0.002)	(0.000)
Observations	3876	519	4395	3876	519	4395	3875	519	4394
R^2	0.884	0.905	0.881	0.835	0.678	0.805	0.817	0.946	0.863
Adjusted R^2	0.854	0.878	0.851	0.792	0.589	0.755	0.770	0.931	0.828

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
CONNECT	-0.004	0.042*	0.013	0.013	0.069**	0.034^{+}	-0.018	0.025	-0.004
	(0.015)	(0.020)	(0.015)	(0.022)	(0.023)	(0.019)	(0.013)	(0.025)	(0.014)
Observations	420	681	1101	420	681	1101	420	681	1101
R^2	0.959	0.911	0.932	0.921	0.727	0.859	0.964	0.948	0.952
Adjusted R^2	0.950	0.893	0.918	0.904	0.669	0.830	0.957	0.937	0.942

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Table report set of two-way fixed effects regression models in which overall, male and female employment are regressed *separately* on three different measures of transit connectivity: number of lines (top panel), log number of day trips (medium panel) and number of connected towns (bottom panel). Dependent variables show employed share of the working-age population, defined as those between 18 and 67 years old.

	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All
LINES	-0.006	0.196***	-0.002	-0.008	0.177**	-0.006
	(0.005)	(0.049)	(0.005)	(0.009)	(0.065)	(0.009)
DAYTRIPS (w)	-0.001*	-0.001	-0.001	-0.001*	-0.003	-0.001*
	(0.000)	(0.002)	(0.000)	(0.000)	(0.003)	(0.000)
CONNECT	-0.006	-0.016	0.001	0.019	0.004	0.025
	(0.018)	(0.034)	(0.018)	(0.020)	(0.049)	(0.018)
KIDSPOP_w				0.019	0.012	0.016
				(0.035)	(0.094)	(0.035)
Observations	350	519	869	280	345	625
R^2	0.960	0.948	0.948	0.968	0.938	0.953
Adjusted R^2	0.948	0.933	0.933	0.956	0.914	0.936

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Dependent variable: Female employed share of the working-age population (18-67 years old).

	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All
LINES	-0.016	0.147^{+}	-0.011	-0.025^{+}	0.136	-0.021^{+}
	(0.011)	(0.078)	(0.011)	(0.013)	(0.093)	(0.013)
DAYTRIPS (w)	-0.000	-0.004^{+}	-0.000	0.000	-0.004*	0.000
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
CONNECT	0.016	0.013	0.017	0.017	0.005	0.015
	(0.024)	(0.042)	(0.023)	(0.031)	(0.048)	(0.024)
KIDSPOP_w				-0.151*	0.005	-0.109^{+}
				(0.073)	(0.090)	(0.059)
Observations	350	519	869	280	345	625
R^2	0.937	0.684	0.871	0.953	0.742	0.911
Adjusted R^2	0.919	0.593	0.836	0.936	0.643	0.879

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Male employed share of the working-age population (18-67 years old).

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
LINES	-0.006	0.146***	-0.003	-0.012	0.117+	-0.008	-0.002	0.173***	0.001
	(0.008)	(0.043)	(0.008)	(0.012)	(0.064)	(0.011)	(0.006)	(0.047)	(0.006)
Observations	3876	519	4395	3876	519	4395	3874	519	4393
R^2	0.847	0.915	0.861	0.793	0.699	0.773	0.792	0.952	0.856
Adjusted R^2	0.807	0.891	0.825	0.739	0.615	0.714	0.738	0.938	0.819

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
DAYTRIPS (w)	-0.000	0.001	0.000	-0.000	-0.001	-0.000	-0.000	0.003*	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	3876	519	4395	3876	519	4395	3874	519	4393
R^2	0.846	0.912	0.861	0.792	0.695	0.772	0.792	0.950	0.856
Adjusted R^2	0.807	0.887	0.825	0.738	0.610	0.714	0.738	0.936	0.819

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
CONNECT	-0.008	0.037+	0.005	0.017	0.057*	0.033	-0.032+	0.029	-0.017
	(0.018)	(0.022)	(0.016)	(0.025)	(0.023)	(0.021)	(0.018)	(0.027)	(0.016)
Observations	420	681	1101	420	681	1101	420	681	1101
R^2	0.945	0.910	0.928	0.888	0.714	0.833	0.961	0.952	0.955
Adjusted R^2	0.933	0.890	0.913	0.864	0.653	0.799	0.953	0.941	0.946

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Table report set of two-way fixed effects regression models in which overall, male and female employment are regressed *separately* on three different measures of transit connectivity: number of lines (top panel), log number of day trips (medium panel) and number of connected towns (bottom panel). Dependent variables show employed share of the working-age population, defined as those between 25 and 65 years old.

	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All
LINES	0.001	0.178**	0.002	-0.004	0.186**	-0.003
	(0.006)	(0.057)	(0.006)	(0.008)	(0.063)	(0.007)
DAYTRIPS (w)	-0.000	0.000	-0.000	-0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
CONNECT	-0.016	-0.010	-0.002	0.018	-0.004	0.026
	(0.022)	(0.034)	(0.018)	(0.023)	(0.048)	(0.020)
KIDSPOP_w				0.021	0.043	0.021
				(0.030)	(0.093)	(0.031)
Observations	350	519	869	280	345	625
R^2	0.953	0.952	0.951	0.963	0.946	0.953
Adjusted R^2	0.940	0.938	0.937	0.949	0.925	0.936

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Dependent variable: Female employed share of the working-age population (25-65 years old).

	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All
LINES	-0.012	0.158*	-0.007	-0.021	0.127	-0.018
	(0.013)	(0.072)	(0.012)	(0.015)	(0.098)	(0.015)
DAYTRIPS (w)	0.000	-0.004^{+}	-0.000	0.001	-0.003	0.001
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
CONNECT	0.024	0.001	0.020	0.025	-0.013	0.018
	(0.027)	(0.036)	(0.023)	(0.032)	(0.049)	(0.025)
KIDSPOP_w				-0.086	0.006	-0.061
				(0.055)	(0.096)	(0.047)
Observations	350	519	869	280	345	625
R^2	0.914	0.701	0.859	0.936	0.765	0.901
Adjusted R^2	0.890	0.616	0.821	0.912	0.676	0.865

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Dependent variable: Male employed share of the working-age population (25-65 years old).

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
LINES	-0.005	0.082*	-0.004	-0.007	0.079+	-0.007	-0.004	0.084*	-0.004
	(0.004)	(0.032)	(0.004)	(0.005)	(0.041)	(0.005)	(0.003)	(0.036)	(0.004)
Observations	4752	630	5382	4752	630	5382	4751	630	5381
R^2	0.905	0.947	0.910	0.864	0.815	0.846	0.845	0.964	0.893
Adjusted R^2	0.885	0.935	0.891	0.836	0.772	0.814	0.812	0.955	0.870

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
DAYTRIPS (w)	0.000	0.001	0.000	0.000	0.000	0.000	-0.000	0.002+	0.000
	(0.000)	(0.001)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.001)	(0.000)
Observations	4752	630	5382	4752	630	5382	4751	630	5381
R^2	0.905	0.946	0.910	0.864	0.813	0.846	0.845	0.963	0.893
Adjusted R^2	0.885	0.934	0.891	0.836	0.770	0.814	0.812	0.955	0.870

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

	EMPRATE_T			EMPRATE_M			EMPRATE_F		
	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All	(7) Jewish	(8) non-Jewish	(9) All
CONNECT	-0.010	0.041*	-0.000	0.001	0.064**	0.016	-0.021*	0.025	-0.013
	(0.013)	(0.019)	(0.012)	(0.018)	(0.023)	(0.016)	(0.011)	(0.023)	(0.010)
Observations	490	795	1285	490	795	1285	490	795	1285
R^2	0.972	0.943	0.953	0.946	0.823	0.903	0.974	0.963	0.964
Adjusted R^2	0.967	0.933	0.945	0.936	0.791	0.886	0.970	0.956	0.958

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: Main results updated with 2016 employment data. Dependent variables show employed share of the working-age population, defined as those between 18 and 67 years old.

	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All
LINES	-0.003	0.082*	-0.003	-0.002	0.068	-0.004
	(0.004)	(0.040)	(0.004)	(0.006)	(0.051)	(0.006)
DAYTRIPS (w)	0.000	0.000	0.000	0.000	0.001	0.000
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
CONNECT	-0.020	-0.004	-0.017	-0.022	0.003	-0.016
	(0.013)	(0.028)	(0.013)	(0.015)	(0.029)	(0.015)
KIDSPOP_w				0.027	-0.031	-0.007
				(0.021)	(0.063)	(0.023)
Observations	420	630	1050	350	433	783
R^2	0.972	0.964	0.963	0.973	0.960	0.960
Adjusted R^2	0.966	0.955	0.954	0.965	0.948	0.949

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: Dependent variable: Female employment (18-67 years old) updated with 2016 data.

	(1) Jewish	(2) non-Jewish	(3) All	(4) Jewish	(5) non-Jewish	(6) All
LINES	-0.007	0.098	-0.007	-0.007	0.048	-0.009
	(0.006)	(0.062)	(0.006)	(0.008)	(0.064)	(0.009)
DAYTRIPS (w)	0.000	-0.002	0.000	0.000	-0.003^{+}	0.000
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
CONNECT	-0.002	0.018	-0.000	-0.012	0.058	-0.006
	(0.019)	(0.041)	(0.019)	(0.024)	(0.042)	(0.023)
KIDSPOP_w				-0.056	0.010	-0.065^{+}
				(0.053)	(0.062)	(0.038)
Observations	420	630	1050	350	433	783
R^2	0.957	0.815	0.911	0.961	0.853	0.924
Adjusted R^2	0.947	0.772	0.891	0.949	0.811	0.904

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10: Dependent variable: Male employment (18-67 years old) updated with 2016 data.