Ethnic Conflict and Job Separations*

Sami Miaari
European University Institute

Asaf Zussman†
Hebrew University

Noam Zussman
Bank of Israel

August 10, 2009

Abstract

We study the effect of the second Intifada, a violent conflict between Israel and its Palestinian neighbors which erupted in September 2000, and the ensuing riots of Arab citizens of Israel, on labor market outcomes of Arabs relative to those of Jewish Israelis. The analysis relies on a large matched employer-employee dataset, focusing on firms that in the pre-Intifada period hired both Arabs and Jews. Our analysis demonstrates that until September 2000 Arab workers had a lower rate of job separation than their Jewish peers and that this differential was significantly reduced after the outbreak of the Intifada. We argue that the most likely explanation for this pattern is increased anti-Arab discrimination among Jews.

JEL classification codes: H56, J15, J63, J71

Keywords: Ethnic Conflict, Job Separation, Israel, Arabs, Intifada

*We are indebted to John Abowd, David Genesove, Luigi Guiso, Victor Lavy, Ramon Marimon, Daniele Paserman, Robert Sauer, Eytan Sheshinski, Françoise Vermeylen, Amos Zehavi and participants of presentations at the Bank of Israel, Ben Gurion University, the European University Institute, the Israeli Economic Association Meeting 2008, the Israeli National Economic Council, Haifa University, Hebrew University (economics department and law school), the London School of Economics, and Tel Aviv University for useful advice. The paper is based on data analysis conducted at the facilities of the Israeli Central Bureau of Statistics using files prepared by Orly Furman of the Bureau's Chief Scientist Department.

†Corresponding author. Please address correspondence to: Asaf Zussman, Department of Economics, The Hebrew University of Jerusalem, Mount Scopus, Jerusalem 91905, Israel; Phone: 972-2-588-3124; E-mail: azussman@mscc.huji.ac.il

1 Introduction

On September 28, 2000 Israeli opposition leader Ariel Sharon made a controversial visit to the site of the Al Aqsa mosque and its compound, known as Temple Mount to Jews and Haram al Sharif to Muslims. The visit triggered mass demonstrations and clashes between Israeli security forces and Palestinians in the Occupied Territories, marking the beginning of the second Intifada (uprising). The Intifada saw an unprecedented wave of violence between Israelis and Palestinians, claiming the lives of thousands. In the first days of October 2000, following the outbreak of the Intifada, Palestinian citizens of Israel (henceforth Arabs or Israeli Arabs) clashed with the police inside and around their communities. Twelve Israeli Arabs died in the "October Events." Relations between Arabs and Jews in Israel, which were always tense, deteriorated during the Intifada.

The purpose of this paper is to study the effect of the second Intifada and the "October Events" on labor market outcomes of Israeli Arabs. Our main hypothesis is that the deterioration in Arab-Jewish relations brought about by these events damaged the position of Arabs in the Israeli labor market, and more specifically, led to a relative increase in their rates of (involuntary) job separation. To test this hypothesis we examine a large matched employer-employee dataset, focusing on private sector firms which in the pre-Intifada period hired both Arabs and Jews.

Several studies (e.g. Eckstein and Tsiddon (2004), Zussman and Zussman (2006), and Zussman, Zussman, and Nielsen (2008)) have documented the severe negative macroeconomic effect the Intifada had on the Israeli economy. Previous research (e.g. Freeman, 1973) has shown that ethnic minorities may be the "last hired and first fired" over the business cycle. Although to date such a pattern has not been documented in Israeli data this still raises the challenge of distinguishing between our hypothesis and the potential effect of the economic downturn. We therefore focus our analysis on an eighteen month window (January 2000 – June 2001) centered around the outbreak of the Intifada, during which the aggregate unemployment rate was stable.[1]

Our analysis demonstrates that in the pre-Intifada period Arabs had a five percentage points lower chance of job separation than their Jewish peers and that this differential was narrowed down by close to a half after the outbreak of the Intifada. The Intifada's effect was persistent, spread across economic sectors and geographic areas, and was not influenced by escalations in violence between Israel and the Palestinians. The data suggest that the most likely explanation for the results is heightened anti-Arab

[1] Nevertheless, to the extent that employers anticipated an economic downturn following the start of violence, we cannot fully distinguish between the alternative explanations.

discrimination among Jews.

The analysis conducted in this paper is most closely related to two existing lines of research in the literature. The first investigates the position of Arabs in the Israeli labor market while the other attempts to detect, in countries other than Israel, a connection between conflict and labor market outcomes.

Asali (2006) used data from income surveys conducted between 1990 to 2003 to measure wage differentials between Arab and Jewish workers. He found that the wage gap increased sharply from 1990 to 1999 but decreased markedly afterwards. Asali argued that the rise in the wage gap during the 1990s was most plausibly related to the mass immigration of Jews from the former Soviet Union. The decline in the second part of the period, the author conjectured, may have been related to the outbreak of the second Intifada, after which the number of Palestinians working in Israel was sharply reduced, raising the demand for Arab-Israeli labor.[2]

Asali's results echo a finding in an earlier study by Haberfeld and Cohen (1996) which covered the period 1987-1993. Haberfeld and Cohen found that relative to Eastern (Sephardi) Jews, Arab-Israelis were successful in narrowing the earnings gap with Western (Ashkenazi) Jews. They argued that the finding was probably related to the sharp decrease in employment of Palestinians in Israel during the first Intifada (which broke out in 1987).

Several differences between these earlier studies and ours are worth emphasizing. First, our analysis focuses on firms which in the pre-Intifada period hired both Arabs and Jews while the previous studies did not differentiate between integrated and segregated workplaces. Second, the earlier papers have examined wage data while we examine patterns of job separation. Third, while the previous studies find that the first and second Intifadas improved the position of Arabs in the Israeli labor market we come to an opposite conclusion. Fourth, our study deals *directly* with the differential effect of the Israeli-Palestinian conflict and the rising Arab-Jewish tensions on the relative position of Arabs in the Israeli labor market. Fifth, the current analysis relies on a much more detailed data source, at the firm level.[3]

Two recent studies examined the effect of the terrorist attacks of September 11, 2001 (9-11) on

[2] Miaari and Sauer (2006) documented the sharp decline in Palestinian employment in Israel following the outbreak of the Intifada.

[3] Several other papers (e.g. Gera and Cohen (2001, 2005) and Klinov (1999)) have compared the outcomes of Arabs and Jews in the Israeli labor market. None of these studies analyzed patterns of job separation or related Arab-Jewish differences in outcomes to the Israeli-Palestinian conflict. For the sake of conciseness we therefore chose not to discuss them here.

labor market outcomes in the United States. Davila and Mora (2005) used data from the American Community Survey and found that Middle Eastern Arab men (and men from other groups most closely associated with the ethnicity of the 9-11 terrorists) experienced significant earnings declines relative to non-Hispanic whites between 2000 and 2002. The authors demonstrated that this finding is not explained by changes in the structure of wages or in observable characteristics beyond ethnicity. Kaushal, Kaestner, and Reimers (2007) found, using data from the Current Population Surveys from September 1997 to September 2005, that the attacks did not significantly affect the employment of first- and second-generation Arab and Muslim men in the United States, but was associated with a 10 percent decline in their real hourly wage and weekly earnings.

Several other papers have examined the effect of terrorist attacks on labor markets in Europe. Aslund and Rooth (2005) investigated the effect of 9-11 on the Swedish labor market. Their examination of unemployment exits and entries around 9-11 found no sign of increased discrimination toward minorities. Braakmann (2007a) found that the 9-11 attacks had no effect on the re-employment prospects of unemployed Arabs in Germany. In another study Braakmann (2007b) found that employment probabilities, hours worked, and real wages of Arab men in England were unchanged following the 9-11 attacks, the Madrid train bombings in March 2004, and the London bombings in July 2005. Thus it is seems fair to conclude that the terrorist attacks of the last decade did not have significant labor market outcomes on relevant minorities in Europe.

Our study shares to some degree the theme of "conflict and discrimination" with the last group of studies discussed above, but at the same time the focus on Israel may give our analysis an advantage. The intensity of the ethnic tensions are by far more pronounced in Israel post-September 2000 than in England, Germany, Sweden and the U.S. post 9-11.[4] Moreover, our analysis is based on very detailed data at the firm level. Finally, ours is the only study to examine patterns of job separation.

Although we focus on a specific conflict, the results may be relevant in other contexts because the interaction between external and internal conflicts, especially ethnic and religious ones, is a prominent feature of world politics.

The rest of the paper is organized as follows. In section 2 we provide a brief background on Arab-Jewish relations in Israel, focusing on the role of the Intifada as a turning point. The structure of the data and methodological issues are discussed in Section 3. In section 4 we present the empirical results.

[4] At the same time it needs to be noted that in contrast to the United States and Europe before 9-11, in our setting the level of ethnic tensions was already at a very high level prior to the event studied. This potentially makes it harder to identify an effect in the Israeli case.

Section 5 deals with the extent to which our main result – the relative increase in the job separation rate of Arabs after the outbreak of the Intifada – can be attributed to increased anti-Arab discrimination among Jews. In section 6 we summarize the findings and offer concluding remarks.

2 Arab-Jewish Relations in Israel

Israeli Arabs comprise around 20 percent of Israel's population, numbering over one million. Muslims (including Bedouins) make up about 80 percent of the Arab population in Israel, with around 10 percent Druze and 10 percent Christians. The majority of Israeli Arabs view themselves as Palestinians and many maintain close ties with Palestinians living in the West Bank, the Gaza Strip, and in other countries.

At the establishment of Israel in 1948 Arabs living inside the country were formally declared equal citizens with full rights. However, they have traditionally been viewed with suspicion by the Jewish majority and occasionally portrayed as a potential "fifth column." From 1948 to 1966 the state applied military rule to Israeli Arabs, placing strict controls on many aspects of their lives, such as on their right to form political organizations and on their place of employment.

Relations between Arabs and Jews tended to improve after the military rule was lifted in 1966. Tensions did, however, rise from time to time. For example, in 1976 six Israeli Arabs were killed in clashes with the police in protests against state appropriations of Arab lands in the Galilee. Arab parties played, for the first time in Israel's history, an important role in the formation of a governing coalition under Yitzhak Rabin. Israeli Arabs strongly supported the Oslo peace process with the Palestinians which was initiated in 1993 by the Rabin government.

The outbreak of the Intifada and the clashes of Israeli Arabs with the police in the Fall of 2000 marked a turning point in Arab-Jewish relations in Israel. Public opinion polls conducted by the Tami Steinmetz Center for Peace Research in Tel Aviv University allow us to explore how these events affected the views of Arabs and Jews.[5] We compare results of two surveys, one conducted on September 26, before Sharon's visit to Temple Mount, and the other on October 2, after several Israeli Arabs were already killed in clashes with the police. Among Jews, the share of those who thought that relations between Israeli Arabs and Jews worsened over the previous year increased from 34 to 45 percent. Among Arabs, the corresponding share exhibited an even stronger increase – from 26 to 42 percent. Both groups were also pessimistic about the future of Arab-Jewish relations. The share of Jews who thought that

[5] The data is available online at the following address: http://spirit.tau.ac.il/socant/peace/.

relations would worsen over the following year increased from 23 to 37 percent. Among Arabs the share increased from 19 to 37 percent.

Other public opinion surveys provide evidence that the change in attitudes was persistent. Sagiv-Shifter and Shamir (2002), for example, report the results of three surveys conducted among Jewish citizens of Israel from January 2000 to July 2001. Figure 1, which is based on their data, demonstrates the dramatic rise in intolerant views toward Arab citizens of Israel following the outbreak of the Intifada: there was a large and persistent increase in the share of Jews who thought that Arabs should not be allowed to hold demonstrations, participate in parliamentary elections, and be elected to parliament, that Arabs should have their telephones wiretapped, and even that Arabs should not be allowed to appear on television.

The escalating Arab-Jewish tensions expressed themselves in the political arena as well. For example, there was a dramatic decline in voter turnout among Israeli Arabs in the general elections. According to Arian, Atmor, and Hadar (2006), since the establishment of the state and until the 1999 elections the turnout has never been lower than 68 percent. In the 2001 elections Arab voter turnout dropped to 18 percent. In contrast, the Jewish turnout barely changed between 1999 and 2001.

As documented by Sprinzak (2003), the Intifada contributed to the political radicalization of the Arab community in Israel: nationalistic views became more popular and there were more incidents of incitement for violence. It is important to note, however, that the participation of Israeli Arabs in acts of politically motivated violence (either in concert with Palestinians from the Occupied Territories or independently) has remained negligible in scale.[6] At the same time, ethnocentric and nationalistic political views have enjoyed increasing popularity and acceptance among Israeli Jews.

Using public opinion polls Smooha (2004) offers a longer term perspective on Arab-Jewish relations. Some of his indicators strongly suggest that the Intifada signaled a turning point. For example, the share of Arabs who denied Israel's right to exist went down from 21 percent in 1976 (the year in which the previous major clashes between Israeli Arabs and the police took place) to 7 percent in 1995. In the next poll, conducted in 2001 (during the Intifada), the share rose to 16 percent and remained at this level in the next year.

In summary, there seems to be a consensus that the outbreak of the Intifada has led to deterioration in Arab-Jewish relations in Israel. There is reason to believe that this phenomenon did not manifest

[6] According to a 2004 report by the Israeli General Security Service the Intifada saw one incident involving an Israeli Arab suicide bomber. The report emphasizes that "those involved in terror among the Israeli Arabs constitute an extreme margin and make up a very small percentage of the [Israeli Arab] population."

itself solely in the political arena but also changed the economic relationship between the two groups. We focus our analysis on Arab-Jewish relations in the labor market.

3 Data and Methodology

The main source of labor market information that we use is a matched employer-employee dataset for the period January 2000 to June 2001. This monthly dataset, produced by Israel's Central Bureau of Statistics (CBS), contains several fields for each employer, including economic sector, location, and number of employees.

The matched employer-employee dataset also contains several fields for each employee, such as annual nominal gross wage and starting date of employment. Using the employees' national identification numbers, the CBS was able to link their records to the population registry, allowing us to obtain information on variables such as gender, age, marital status, number of children, country of birth, year of immigration, and place of residence. Importantly, we can identify each employee's ethnicity.

The matched employer-employee dataset covers all Israeli employers. We exclude from our analysis employers in the public sector because the scope for differential treatment of Arabs and Jews (within the same workplace) in it is negligible due to the following reasons. First, the overwhelming majority of Arab public sector workers are employed in education and health services which are almost completely ethnically segregated – Arabs work in Arab communities and Jews work in Jewish communities. Second, the enforcement of equal employment rights laws is relatively rigorous in the public sector. Third, public sector workers tend to be unionized and to hold tenured jobs and are thus not as likely to be discharged as their private sector peers.

The private sector matched employer-employee dataset we were left with was practically too large to handle. We therefore had to restrict the analysis to a subset of employers based on three criteria: the share of Arab employees in each economic branch (sector), the overall number of employees in that sector, and the size of the employer. We exclude sectors in which the share of Arab employees is miniscule: electricity, water, transportation[7], and communication. In contrast, we include all the employers in agriculture and construction, since in both sectors the share of Arab employees is high. In the other sectors – manufacturing, commerce, and various services – we divide all employers to groups based on the number of employees: 1-10, 11-50, 51-100, and more than 100. We include in our dataset all the employers in the first and second groups but progressively limit our coverage (based on

[7] Excluding the ground transportation sub-sector which has a large proportion of Arab employees.

a representative sample) in the third and fourth groups.[8] Thus our dataset is made up of the entire population of employers in some sectors and a representative sample of employers in the other sectors.

We restrict the analysis to employees who were 18 to 54 years old in 2000. Excluding old workers from the analysis helps us to circumvent problems associated with early retirement.

Since we want to examine differences in labor market outcomes for Arabs and Jews we focus our investigation on integrated firms, i.e. firms that employed both Arabs and Jews. In order to capture the effect of the Intifada our analysis tracks workers who started their employment in integrated firms in the pre-Intifada period (January to September 2000). Examining only workers that started their employment during that period, rather than all existing workers, avoids the stock sampling bias. On the eve of the Intifada, in September 2000, our dataset contains 228,295 jobs (22 percent of which are of Arabs) in 11,179 firms.

The matched employer-employee dataset offers some advantages relative to other sources of data. Probably the main advantage is that by examining data at the *firm level* we are better able to identify and understand the sources of Arab-Jewish differences in job separation patterns. A nationwide Arab-Jewish differential job separation rate could have several explanations. Among them are changes in the demand for labor in different sectors which employ varying proportions of Arabs and Jews. Controlling for changes in demand *between* sectors is not enough, however. One needs firm level data in order to take into account changes in demand *within* the same sector. For example, rising tensions may lead to a decline in tourism in some cities (e.g. Jerusalem) but leave other tourist destinations (e.g. Eilat, on the coast of the Red Sea) relatively unaffected. By examining data at the firm level we can readily confront such confounding factors.[9]

A major weakness of the matched employer-employee dataset is that it does not tell us whether the job separation is voluntary or involuntary. As we show in Section 5, however, the richness of the data allows us to narrow the investigation down to those cases that most likely involved involuntary separation. Another weakness of the dataset – which is common to administrative datasets – is that it does not include information about the occupation of the employee. Such information could have been very useful in detecting discrimination and ascertaining its type (e.g. customer discrimination). This problem is mitigated by the fact that we know the employee's wage rate, which captures to some extent her occupation, education, and seniority.

Our analysis also relies on labor force surveys conducted by the CBS. These are rotating quarterly

[8] Details are available upon request.

[9] An added benefit of using firm level data is that it makes it unlikely that our results are influenced by seasonality.

panels where households are surveyed four times over six quarters: they are surveyed for two consecutive quarters, not surveyed in the next two quarters, and then surveyed again for two consecutive quarters (the surveys cover slightly more than 20,000 individuals aged 15 or older in each quarter). This dataset assists us in tracking aggregate fluctuations in the labor market.

A natural question to examine is whether the intensity of violence during the Intifada affected the job separation rates of Jews and Arabs. In order to do so we collected data on politically motivated violence directed against Israelis. The data cover all fatal attacks against civilians and security forces inside Israel and in the Occupied Territories, combining information from several sources: B'tselem, the Israeli Information Center for Human Rights in the Occupied Territories; the International Policy Institute for Counterterrorism; the Israeli Ministry of Foreign Affairs; the Israeli Ministry of Defense; and the Israeli National Insurance Institute. Data on violence obtained from these sources was cross-checked and augmented with the use of media reports obtained via the LexisNexis service.

In order to identify whether the outbreak of the Intifada, the intensity of violence, and other factors had a differential effect on the patterns of job separation of Arabs and Jews we apply a standard survival analysis using a linear probability model. We follow workers from the month they enter a specific firm until they are separated from that firm or until June 2001 (the censoring month).[10] Thus the dependent variable in the regressions is the employment status of the worker in the firm in a given month. The set of explanatory variables includes individual and firm characteristics and variables that capture the outbreak of the Intifada and its intensity.

4 Patterns of Job Separation: The Evidence

4.1 The big picture

Between January and the end of September 2000 the number of Israeli fatalities from the conflict with the Palestinians was miniscule (Figure 2). The outbreak of the Intifada signaled a turning point – although the intensity of violence remained low in late 2000 and early 2001, it increased dramatically later on. Figure 3 illustrates the large adverse effect of the Intifada on the Israeli labor market. Note, however, that as we argued earlier, this effect was not immediate: the average unemployment rate during the three quarters following the outbreak of the Intifada was practically the same as the rate in the previous three quarters. Only later did the unemployment rate exhibit a significant increase.

[10] Simultaneous jobs of the same employee are treated as separate jobs.

Figure 4 displays the Arab-Jewish differential in the cumulative hazard rate – the difference between Arab and Jewish employees in the accumulated risk of being separated from their original employer (integrated firm). Prior to the outbreak of the Intifada the risk was lower for Arabs than for Jews. Since then the risk of separation has increased sharply for Arabs relative to Jews. The pre-Intifada pattern likely reflects relatively weak outside labor market options for Arabs which makes them more attached to their employers. Assuming that the outbreak of the Intifada did not bring with it a relative improvement in the job finding prospects of Arabs, the post-September 2000 pattern of job separations reflects an increase in the relative risk of layoff for Arab employees (see Section 5 for analysis of the question of voluntary versus involuntary separations).

4.2 Main regression results

We now turn to an econometric analysis of the Intifada's effect on job separation rates among Arabs and Jews. Table 1 provides our first set of regression results. The sample covers the period January 2000 to June 2001 and includes all workers who started their employment in integrated firms in the pre-Intifada period (January to September 2000). The dependent variable is the employment status of the worker in the firm (0 employed, 1 separated). In column 1 the model includes dummy variables for sectors (the base sector is manufacturing) and in column 2 the model includes firm fixed effects.

Females, married individuals and new immigrants (those who immigrated to Israel since 1989) have lower rates of job separation relative to males, the unmarried, and those born in Israel; the employee's age, number of children, experience (i.e. tenure in the firm), and initial salary are negatively associated with the rate of separation. The number of non-Israeli (Palestinian and foreign) workers in the Israeli labor market is positively associated with the job separation rate, reflecting substitution between Israeli and non-Israeli workers.

Turning to the focus of our examination, we find that before the outbreak of the Intifada Arabs had a 3 to 5 percentage points *lower* chance of being separated from their employers than Jews (this fact has been demonstrated graphically in Figure 4). The Intifada itself led to an increase in the job separation rates of both Arabs and Jews. However, the increase in the job separation rate was not uniform: it was between 1 to 2 percentage points *higher* for Arabs than for Jews. Thus the results suggest that while the Intifada did not completely eliminate the Arab-Jewish difference in job separation rates, it narrowed it down considerably. Since we are interested in understanding the dynamics of job separation *within* each firm, from this point on we use the specification of column 2 as our baseline model.

How did the Arab-Jewish differential job separation rate evolve during the Intifada period? In order to examine this question we estimate the baseline model while replacing the Intifada indicator variable with a set of month dummies for the Intifada period, and the interaction term between the Intifada and Arab variables with a set of interaction terms between the month dummies and the Arab variable. Figure 5 shows that the increase in the Arab-Jewish differential job separation rate, relative to the pre-Intifada period, was significant for all months from October 2000 to June 2001 and did not decline by much over time.[11] The evidence thus suggests the Intifada had a persistent effect.

Table 2 displays the results obtained from estimating the baseline model for each sector separately. For seven of the eight sectors we find that the Intifada narrowed down or completely eliminated the Arab-Jewish differential job separation rate. Thus the effect of the Intifada and the "October Events" was spread across almost all sectors.

How did changes in the intensity of violence during the conflict with the Palestinians affect the job separation rates of Arabs and Jews? Table 3 demonstrates that the contemporaneous and lagged values of monthly Israeli fatalities are all associated with increased job separation rates but also that this effect is almost uniform for Jewish and Arab workers. The strongest effects are estimated for the lags; this likely reflects frictions in the process of job separation. The results presented in Table 3 imply that the outbreak of the Intifada and the "October Events" led to a large discrete increase in the differential job separation rate and that this differential was not influenced by the fluctuating intensity of violence.[12]

Lastly, we examine two geographical aspects of the conflict's effects. We term the towns in which clashes between Arabs and the police occurred as "October Events" towns and the areas around them as "October Events" areas.[13] Many integrated firms operate in these areas which are characterized by close proximity of Arab, Jewish and integrated towns. One may suspect that the "October Events" had an especially large effect on firms and workers in these areas. The results presented in Table 4 show

[11] The pre-Intifada Arab-Jewish differential job separation rate is -4.86 percentage points (standard error=0.34 percentage points).

[12] Our analysis implicitly assumes that Palestinian violence toward Israelis leads to increased animosity of Jews toward Arabs which in turn affects labor market outcomes. In this respect the analysis could have benefitted from using direct measures of animosity rather than fatality figures. Unfortunately, to the best of our knowledge measures of animosity (e.g. from public opinion polls) are not unavailable at regular frequencies.

[13] The "October events" towns are: Acre, Araaba, Deir al-Asad, Ein Mahel, Jisr az-Zarqa, Kafar Kanna, Kfar Manda, Kfar Yasif, Majd al-Krum, Nazareth, Reineh, Sakhnin, Shefa-'Amr, Tamra, Turaan, Umm al-Fahm, and Yafi'a. The (natural) areas these towns are located in are the Acre area, the Alexander Mountain area (Wadi Ara area, northern Triangle), the Carmel coast area, the Carmiel area, the Hadera area (southern Triangle), the Nazareth mountains – Turaan area, and the Shefa-'Amr area.

that the Intifada's effect on the Arab-Jewish differential job separation rate was practically identical for workers employed in firms located in the "October Events" areas and for workers employed elsewhere (column 1). A somewhat stronger effect, but still a statistically insignificant one, was estimated for Arab employees from "October Events" towns (column 2).

Another special set of firms and workers are those associated with integrated towns, which are predominantly Jewish towns with a sizeable Arab minority.[14] In these towns Arabs and Jews have lived together for years, in some cases for many generations. The results presented in column 3 of Table 4 show that the Intifada's effect on the Arab-Jewish differential job separation rate was, as expected, lower for workers employed in firms located in integrated towns than for workers employed elsewhere but this difference is not statistically significant. We also find an insignificant difference for workers from integrated towns relative to workers from other towns (column 4). The results presented in Table 4 thus suggest that the differential effect of the Intifada on the job separation rates of Arabs and Jews tended to be geographically diffused.

5 Discrimination?

The findings presented in the previous section are open for several interpretations. Probably the most plausible one seems to be that the results are due to a widening anti-Arab discrimination in the Israeli labor market. The perception that Israeli Arabs suffer from discrimination by Jews is widespread and is not restricted to Arabs only. Using survey data collected in January 2001, Sagiv-Shifter and Shamir (2002) show that 97 percent of Arabs and 64 percent of Jews thought that Israeli Arabs are discriminated against. Official recognition of this state of affairs appears in the report by the state commission of inquiry into the events of October 2000 (the Or Commission) which concluded that "The Arab citizens of Israel live in a reality in which they experience discrimination as Arabs."

The seminal work of Becker (1957) has spawned an enormous literature on the economics of discrimination.[15] From the perspective of this literature it is interesting to note that our study offers a relatively rare examination of the interaction between ethnic groups *at the margin*, in that we focus on

[14] The integrated towns are: Acre, Haifa, Lod, Maalot-Tarshiha, Ramle, Tel Aviv-Jaffa, and Upper Nazareth. Note that Jerusalem, the city with the largest overall Arab population, is a special case since its Arab inhabitants (concentrated in the eastern part of the city) became permanent residents of Israel only after the 1967 war. The Arabs of East Jerusalem keep strong ties with the Palestinian population of the West Bank. We therefore exclude Jerusalem from the analysis of integrated towns.

[15] The literature on labor market discrimination is reviewed by Altonji and Blank (1999).

firms in which Arab employees interact with Jewish co-workers and employers.[16] As Heckman (1998) emphasizes "The impact of market discrimination is not determined by the most discriminatory participants in the market, or even by the average level of discrimination among firms, but rather by the level of discrimination at the firms where ethnic minorities or women actually end up buying, working and borrowing. It is at the margin that economic values are set."[17]

There are two main branches in the economics of discrimination literature. The first, due to Becker (1957), deals with taste based discrimination, or personal prejudice, among employers, fellow employees, or customers who dislike associating with workers of a given sex, race, or ethnicity. The second branch, due to Phelps (1972) and Arrow (1973), deals with statistical discrimination. This literature focuses on hiring decisions and essentially argues that employers have limited information about the skills of job applicants and therefore use observable characteristics of applicants, such as ethnicity, to infer their expected productivity.

Since we examine job separations, which are situations where the employer likely already knows the productivity of the workers, it seems that taste-based discrimination is the more relevant type of discrimination to consider. This conclusion seems even more warranted considering the evidence provided in section 2 which demonstrated that the outbreak of the Intifada and the "October Events" increased anti-Arab sentiment among Jewish Israelis.[18]

At the same time, however, two alternative, non-discriminatory, interpretations of the results suggest themselves. The first assumes that job separations are mostly voluntary and argues that the outbreak of the Intifada may have affected Arab employees' willingness to work for Jewish employers, interact with fellow Jewish employees, or serve Jewish customers, leading them to quit their jobs. The second

[16] Our data do not identify the ethnic identities of the owners or managers of the integrated firms. However, the data do tell us that throughout the period examined the share of integrated firms located in Arab towns and villages – where the likelihood of Arab ownership and management is relatively high – was less than five percent. Moreover, consultations with leading Israeli non-governmental organizations which focus their efforts on advancing the equality between Arab and Jewish citizens of Israel lead us to believe that almost all integrated firms in the country operate under Jewish ownership and management. Thus our working assumption will be that Jews own and manage the integrated firms analyzed here.

[17] Charles and Guryan (2008) have recently re-emphasized the importance of marginal considerations in the analysis of discrimination.

[18] In a similar vein Moser (forthcoming) uses data from opera programs, census records on first names, and food purchases in the United States to argue that WWI created a preference shock against German Americans. Moser uses this shock to ethnic preferences to identify the effects of taste-based discrimination in the applications for seats on the New York Stock Exchange: the War more than doubled the probability that German applicants would be rejected (relative to Anglo-Saxons).

alternative explanation assumes that the job separations are involuntary but argues that the relative rise in the separation rates of Arabs may be due to a relative decline in Arab work effort (or productivity) after the outbreak of the Intifada.

We first examine the possibility of voluntary separations. Table 5 presents the results of estimating our baseline model with increasingly more restrictive samples. In the first column we use the entire sample as a benchmark for comparison. In the second column (Restriction 1) we exclude from the analysis cases of bankruptcy.[19] Although these are cases of involuntary separation they are not directly related to the question of discrimination. In the third column (Restriction 2) we exclude, on top of the bankruptcy cases, those cases in which the employee held a parallel job to the job he was separated from and those cases in which the employee immediately (within a month) found an alternative job. By using this restriction we focus the analysis on cases that are more likely to be associated with involuntary separations. As we move to the right in Table 5 the effect of the Intifada on Jewish workers weakens: from about five percent in column 1 to roughly one percent in column 3. In contrast, the Arab-Jewish differential job separation rate, for both the pre-Intifada period and the Intifada period, is stable throughout. Thus the evidence seems to be inconsistent with the voluntary separations hypothesis.[20]

We next investigate the hypothesis that the Intifada led to reduced work effort among Arab employees, which in turn led to them being laid off. The matched employer-employee dataset does not allow estimation of employees' productivity. However, the labor force surveys contain information about absenteeism, which is an (admittedly crude) indication of work effort. According to the labor force surveys in the pre-Intifada period (first three quarters of 2000) the average absenteeism rate was 6.0 percent among Arabs and 7.0 percent among Jews. In the Intifada period (the following three quarters) the corresponding figures were 4.2 and 6.2 percent. Thus the evidence also seems to be inconsistent with the reduced work effort hypothesis.

We believe that taken as a whole the evidence suggests (but does not conclusively establish) that the most plausible explanation for the increase in the Arab-Jewish differential job separation rate after the outbreak of the Intifada was heightened (taste-based) anti-Arab discrimination among Jews. In fact, one may argue that our analysis understates the effect of the Intifada-induced rise in anti-Arab discrimination on the labor market: by focusing on (what seem to be mostly) layoff decisions we ignored the hiring decisions of Jewish owners and managers which were likely influenced by the conflict. We

[19] Bankruptcy is defined as those cases in which the number of employees in the firm falls down to zero.

[20] Labor force surveys provide further (indirect) support for this conclusion as they show that the quitting rate of Arabs is significantly lower than that of Jews (7 percent for Arabs and 19 percent for Jews during the period under investigation).

leave the analysis of this question for future research.

6 Conclusion

This study examined the effects of the second Intifada, a violent conflict between Israel and Palestinians living in the West Bank and the Gaza Strip, and the ensuing riots of Arab citizens of Israel, on labor market outcomes of Arabs relative to those of Jewish Israelis. Our analysis focused on private sector firms that in the pre-Intifada period hired both Arabs and Jews. Using a comprehensive matched employer-employee dataset we demonstrated that in the pre-Intifada period Arabs had a five percentage points lower chance of job separation than their Jewish peers and that this differential was narrowed down by close to a half after the outbreak of the Intifada. The effect of the Intifada was persistent, spread across economic sectors and geographic areas, and was not influenced by escalations in violence between Israel and the Palestinians.

Although our findings are open for several interpretations, we believe that taken as a whole the evidence presented in this study indicate that the most plausible explanation for the increase in the Arab-Jewish differential job separation rate after the outbreak of the Intifada was heightened anti-Arab discrimination among Jews.

Our study contributes to the literature on the relationship between ethnic conflict and labor market outcomes. Although we focus on the Israeli-Palestinian conflict, our results are likely be relevant in other contexts since ethnic and religious tensions characterize many countries around the world and since many international conflicts involve situations were sub-groups in the populations of the belligerent states share strong cross-border ethnic and religious ties. In such circumstances the potential for an interaction between internal tensions and external conflict to influence labor market outcomes always exists.

References

[1] **Altonji, Joseph G., and Rebecca M. Blank.** 1999. "Race and Gender in the Labor Market." In *Handbook of Labor Economics*, Vol. 3, eds. Orley Ashenfelter and David Card, 3143-3259. Amsterdam: North-Holland.

[2] **Arian, Asher, Nir Atmor, and Yael Hadar.** 2006. *The 2006 Israeli Democracy Index.* Jerusalem: The Israeli Democracy Institute. [in Hebrew]

[3] **Arrow, Kenneth.** 1973. "The Theory of Discrimination." In *Discrimination in Labor Markets*, eds. Orley Ashenfelter and Albert Rees, 3-33. Princeton, NJ: Princeton University Press.

[4] **Asali, Muhammad.** 2006. "Why Do Arabs Earn Less than Jews in Israel?" Maurice Falk Institute for Economic Research in Israel Discussion Paper 06.03.

[5] **Aslund, Olof, and Dan-Olof Rooth.** 2005. "Shifts in Attitudes and Labor Market Discrimination: Swedish Experiences after 9-11." *Journal of Population Economics*, 18(4): 603-629.

[6] **Becker, Gary S.** 1957. *The Economics of Discrimination*. Chicago: The University of Chicago Press.

[7] **Braakmann, Nils.** 2007a. "The Impact of September 11th, 2001 on the Job Prospects of Foreigners with Arab Background – Evidence from German Labor Market Data." University of Luneburg Working Paper Series in Economics No. 37.

[8] **Braakmann, Nils.** 2007b. "Islamistic Terror, the War on Iraq and the Job Prospects of Arab Men in Britain: Does a Country's Direct Involvement Matter?" University of Luneburg Working Paper Series in Economics No. 70.

[9] **Charles, Kerwin K., and Jonathan Guryan.** 2008. "Prejudice and the Economics of Discrimination." *Journal of Political Economy*, 116(5): 1173-1809.

[10] **Davila, Alberto, and Marie T. Mora.** 2005. "Changes in the Earnings of Arab Men in the US between 2000 and 2002." *Journal of Population Economics*, 18(4): 587-601.

[11] **Eckstein, Zvi, and Daniel Tsiddon.** 2004. "Macroeconomic Consequences of Terror: Theory and the Case of Israel." *Journal of Monetary Economics*, 51(5): 971-1002.

[12] **Freeman, Richard B.** 1973. "Changes in the Labor Market for Black Americans, 1948-1972." *Brookings Papers on Economic Activity*, 1: 67-120.

[13] **Gera, Ramsis, and Rafaela Cohen.** 2001. "Poverty among Arabs in Israel and the Sources of Inequality between Arabs and Jews." *Israel Economic Quarterly*, 48(4): 543-571. [in Hebrew]

[14] **Gera, Ramsis, and Rafaela Cohen.** 2005. "Occupational Inequality between Educated Arabs and Jews in the Israeli Labor Market." In *The Arab Community in Israel: Population, Society, Economy*, ed. Aziz Haider. Jerusalem: The Van Leer Jerusalem Institute. [in Hebrew]

[15] **Haberfeld, Yitchak, and Yinon Cohen.** 1996. "Earnings Gaps Between Israel's Native-born Men: Western Jews, Eastern Jews, and Arabs, 1987-1993." Golda Meir Institute for Social and Labor Research Discussion Paper 85.

[16] **Heckman, James J.** 1998. "Detecting Discrimination." *Journal of Economic Perspectives*, 12(2): 101-116.

[17] **Kaushal, Neeraj, Robert Kaestner, and Cordelia Reimers.** 2007. "Labor Market Effects of September 11th on Arab and Muslim Residents of the U.S." *Journal of Human Resources*, 42(2): 275-308.

[18] **Klinov, Ruth.** 1999. "Changes in the Wage Structure – Inter- and Intra-Sectoral Wage Differentials: Israel, 1970-1997." Institute for Social-Economic Research (Histadrut) Discussion Paper 4. [in Hebrew]

[19] **Miaari, Sami H., and Robert M. Sauer.** 2006. "The Labor Market Costs of Conflict: Closures, Foreign Workers, and Palestinian Employment and Earnings." Institute for the Study of Labor (IZA) Discussion Paper 2282.

[20] **Moser, Petra.** forthcoming. "An Empirical Test of Taste-Based Discrimination: Evidence from Applications to the New York Stock Exchange During World War I." *Journal of Economic History.*

[21] **Phelps, Edmund S.** 1972. "The Statistical Theory of Racism and Sexism." *American Economic Review*, 62(4): 659-61.

[22] **Sagiv-Shifter, Tami, and Michal Shamir.** 2002. *Israel as a Laboratory for the Research of Political Tolerance.* Tel Aviv: The B.I. and Lucille Cohen Intstitute for Public Opinion Research at Tel-Aviv University. [in Hebrew]

[23] **Smooha, Sammy.** 2004. "Arab-Jewish Relations in Israel: A Deeply Divided Society." In *Israeli Identity in Transition*, ed. Anita Shapira, 31-67. Westport, CT: Praeger.

[24] **Sprinzak, Ehud.** 2003. *The Israeli Arabs: From Conflict Resolution to Conflict Management.* Herzliya: Interdisciplinary Center. [in Hebrew]

[25] **Zussman, Asaf and Zussman, Noam.** "Assassinations: Evaluating the Effectiveness of an Israeli Counterterrorism Policy Using Stock Market Data." *Journal of Economic Perspectives*, Spring 2006, 20(2), pp. 193-206.

[26] **Zussman, Asaf, Noam Zussman, and Morten Ø Nielsen.** 2008. "Asset Market Perspectives on the Israeli-Palestinian Conflict." *Economica*, 75(1): 84-115.

TABLE 1: EFFECT OF THE INTIFADA ON ARABS AND JEWS

	Sector Dummies	Firm Fixed Effects
Male	2.552***	2.743***
	(0.325)	(0.305)
Age	-0.178***	-0.175***
	(0.021)	(0.022)
Married	-2.013***	-2.082***
	(0.213)	(0.211)
Number of children	-0.478***	-0.519***
	(0.115)	(0.115)
New immigrant	-1.541***	-2.304***
	(0.394)	(0.346)
Experience	-7.298***	-4.464***
	(0.237)	(0.228)
Worker's initial salary	-1.514***	-1.535***
	(0.233)	(0.283)
Palestinians and Foreign Workers	0.043***	0.051***
	(0.007)	(0.007)
Agriculture	1.924***	
	(0.686)	
Construction	2.666***	
	(0.479)	
Commerce	0.167	
	(0.451)	
Hospitality and food services	4.186***	
	(0.605)	
Transportation	-0.947	
	(0.884)	
Banking and financial services	3.028**	
	(1.218)	
Business services	7.311***	
	(0.823)	
Arab	-2.929***	-4.855***
	(0.408)	(0.334)
Intifada	4.095***	4.746***
	(0.515)	(0.579)
Intifada*Arab	**0.907****	**2.195*****
	(0.361)	**(0.340)**
Observations	784,021	784,021
R-squared	0.080	0.071

Notes: The dependent variable is the employment status of the worker in the firm (0 employed, 1 unemployed). The sample covers the period January 2000 – June 2001 and includes all workers who started their employment in integrated (Arab-Jewish) firms from January to September 2000. Experience is firm specific and enters in natural logarithm form. All coefficients and standard errors were multiplied by 100 for ease of exposition. The omitted sector in column (1) is manufacturing. The regressions include a constant (not reported) and were estimated by ordinary least squares. Standard errors (adjusted for clustering by firms) are in parentheses. The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels. *Source*: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations.

TABLE 2: ANALYSIS BY SECTORS

	Manufacturing	Agriculture	Construction	Commerce
Arab	-4.993***	-1.736	-4.160***	-6.746***
	(0.685)	(1.585)	(0.761)	(0.551)
Intifada	4.728***	2.494	7.839***	4.432***
	(0.613)	(1.717)	(1.322)	(1.430)
Intifada*Arab	**1.199***	**4.410*****	**1.271**	**2.794*****
	(0.686)	**(1.688)**	**(0.836)**	**(0.667)**
Observations	173,886	61,566	97,292	148,228
R-squared	0.054	0.076	0.062	0.057

	Hospitality and food services	Transportation	Banking and financial services	Business services
Arab	-3.040***	-4.413***	-1.115	-5.375***
	(0.678)	(1.053)	(3.008)	(0.705)
Intifada	3.090**	1.922	7.033	4.548**
	(1.436)	(1.474)	(5.327)	(1.879)
Intifada*Arab	**1.904***	**3.937*****	**-0.808**	**1.663*****
	(1.000)	**(1.013)**	**(3.138)**	**(0.916)**
Observations	99,963	35,074	4,683	163,329
R-squared	0.057	0.072	0.043	0.081

Notes: The dependent variable is the employment status of the worker in the firm (0 employed, 1 unemployed). The sample covers the period January 2000 – June 2001 and includes all workers who started their employment in integrated (Arab-Jewish) firms from January to September 2000. All the regressions include the same set of right hand side variables as in column (2) of Table 1. All coefficients and standard errors were multiplied by 100 for ease of exposition. The regressions were estimated by ordinary least squares with firm fixed effects. Standard errors (adjusted for clustering by firms) are in parentheses. The symbols *, **, *** represent statistical significance at the 10, 5, and 1 percent levels.
Source: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations.

TABLE 3: EFFECT OF VIOLENCE INTENSITY

	(1)	(2)	(3)	(4)
Male	2.742***	2.748***	2.759***	2.758***
	(0.305)	(0.305)	(0.305)	(0.305)
Age	-0.175***	-0.176***	-0.179***	-0.179***
	(0.022)	(0.022)	(0.022)	(0.022)
Married	-2.083***	-2.085***	-2.094***	-2.093***
	(0.211)	(0.211)	(0.211)	(0.211)
Number of children	-0.519***	-0.516***	-0.504***	-0.506***
	(0.115)	(0.115)	(0.115)	(0.115)
New immigrant	-2.305***	-2.301***	-2.290***	-2.293***
	(0.346)	(0.346)	(0.346)	(0.346)
Experience	-4.487***	-4.740***	-4.584***	-4.790***
	(0.231)	(0.230)	(0.229)	(0.232)
Worker's initial salary	-1.535***	-1.535***	-1.534***	-1.534***
	(0.283)	(0.283)	(0.283)	(0.283)
Palestinians and	0.052***	0.047***	0.019***	0.027***
Foreign Workers	(0.007)	(0.007)	(0.006)	(0.006)
Arab	-4.856***	-4.861***	-4.867***	-4.869***
	(0.334)	(0.333)	(0.333)	(0.332)
Intifada	4.627***	3.271***	1.768***	1.346***
	(0.604)	(0.473)	(0.482)	(0.492)
Intifada*Arab	**2.626*** **	**2.359*** **	**2.045*** **	**2.530*** **
	(0.483)	**(0.364)**	**(0.358)**	**(0.508)**
Fatalities(0)	0.019			0.032**
	(0.015)			(0.015)
Fatalities(-1)		0.171***		0.111***
		(0.024)		(0.019)
Fatalities(-2)			0.178***	0.139***
			(0.034)	(0.026)
Fatalities(0)*Arab	**-0.037**			**-0.024**
	(0.026)			**(0.030)**
Fatalities(-1)*Arab		**-0.017**		**-0.021**
		(0.028)		**(0.026)**
Fatalities(-2)*Arab			**0.021**	**0.021**
			(0.032)	**(0.029)**
Observations	784,021	784,021	784,021	784,021
R-squared	0.071	0.071	0.071	0.072

Notes: The dependent variable is the employment status of the worker in the firm (0 employed, 1 unemployed). The sample covers the period January 2000 – June 2001 and includes all workers who started their employment in integrated (Arab-Jewish) firms from January to September 2000. The variables fatalities(0), fatalities(-1), and fatalities(-2) are the number of Israeli fatalities from politically motivated violence with 0, 1, and 2 month lags. The fatality figures exclude those associated with the "October Events." All coefficients and standard errors were multiplied by 100 for ease of exposition. The regressions were estimated by ordinary least squares with firm fixed effects. Standard errors (adjusted for clustering by firms) are in parentheses. The symbols *, **, *** represent statistical significance at the 10, 5, and 1 percent levels.
Source: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations.

TABLE 4: "OCTOBER EVENTS" AREAS AND INTEGRATED TOWNS

	(1)	(2)	(3)	(4)
Male	2.743***	2.743***	2.738***	2.746***
	(0.305)	(0.305)	(0.305)	(0.305)
Age	-0.175***	-0.175***	-0.175***	-0.175***
	(0.022)	(0.022)	(0.022)	(0.022)
Married	-2.082***	-2.082***	-2.085***	-2.080***
	(0.211)	(0.211)	(0.211)	(0.211)
Number of children	-0.519***	-0.518***	-0.520***	-0.519***
	(0.115)	(0.115)	(0.115)	(0.115)
New immigrant	-2.304***	-2.303***	-2.305***	-2.306***
	(0.346)	(0.346)	(0.345)	(0.346)
Experience	-4.464***	-4.463***	-4.466***	-4.464***
	(0.228)	(0.228)	(0.228)	(0.228)
Worker's initial salary	-1.535***	-1.535***	-1.535***	-1.535***
	(0.283)	(0.283)	(0.283)	(0.283)
Palestinians and Foreign Workers	0.051***	0.051***	0.051***	0.051***
	(0.007)	(0.007)	(0.007)	(0.007)
Arab	-4.856***	-4.850***	-4.792***	-4.861***
	(0.332)	(0.333)	(0.330)	(0.334)
Intifada	4.753***	4.755***	5.057***	4.738***
	(0.589)	(0.579)	(0.585)	(0.581)
Intifada*Arab	**2.182*** **	**2.056*** **	**2.242*** **	**2.148*** **
	(0.348)	**(0.354)**	**(0.357)**	**(0.350)**
Intifada*Firm in "October Events" area	-0.106			
	(0.717)			
Intifada*Firm in "October Events" area*Arab	**0.144**			
	(0.760)			
Intifada*Employee from "October Events" town		-0.875		
		(0.736)		
Intifada*Employee from "October Events" town*Arab		**1.312**		
		(0.850)		
Intifada*Firm in integrated town			-1.278**	
			(0.624)	
Intifada*Firm in integrated town*Arab			**-0.839**	
			(0.651)	
Intifada*Employee from integrated town				0.048
				(0.226)
Intifada*Employee from integrated town*Arab				**0.540**
				(0.572)
Observations	784,021	784,021	784,021	784,021
R-squared	0.071	0.071	0.071	0.071

Notes: The dependent variable is the employment status of the worker in the firm (0 employed, 1 unemployed). The sample covers the period January 2000 – June 2001 and includes all workers who started their employment in integrated (Arab-Jewish) firms from January to September 2000. The "October Events" towns are: Acre, Araaba, Deir al-Asaf, Ein Mahel, Jisr az-Zarqa, Kafar Kanna, Kfar Manda, Kfar Yasif, Majd al-Krum, Nazareth, Reineh, Sakhnin, Shefa-'Amr, Tamra, Turaan, Umm al-Fahm, and Yafi'a. The (natural) areas these towns are located in are the Acre area, the Alexander Mountain area (Wadi Ara area, northern Triangle), the Carmel coast area, the Carmiel area, the Hadera area (southern Triangle), the Nazareth mountains -- Turaan area, and the Shefa-'Amr area. The integrated towns are: Acre, Haifa, Lod, Maalot-Tarshiha, Ramle, Tel Aviv-Jaffa, and Upper Nazareth. All coefficients and standard errors were multiplied by 100 for ease of exposition. The regressions were estimated by ordinary least squares with firm fixed effects. Standard errors (adjusted for clustering by firms) are in parentheses. The symbols *, **, *** represent statistical significance at the 10, 5, and 1 percent levels.
Source: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations.

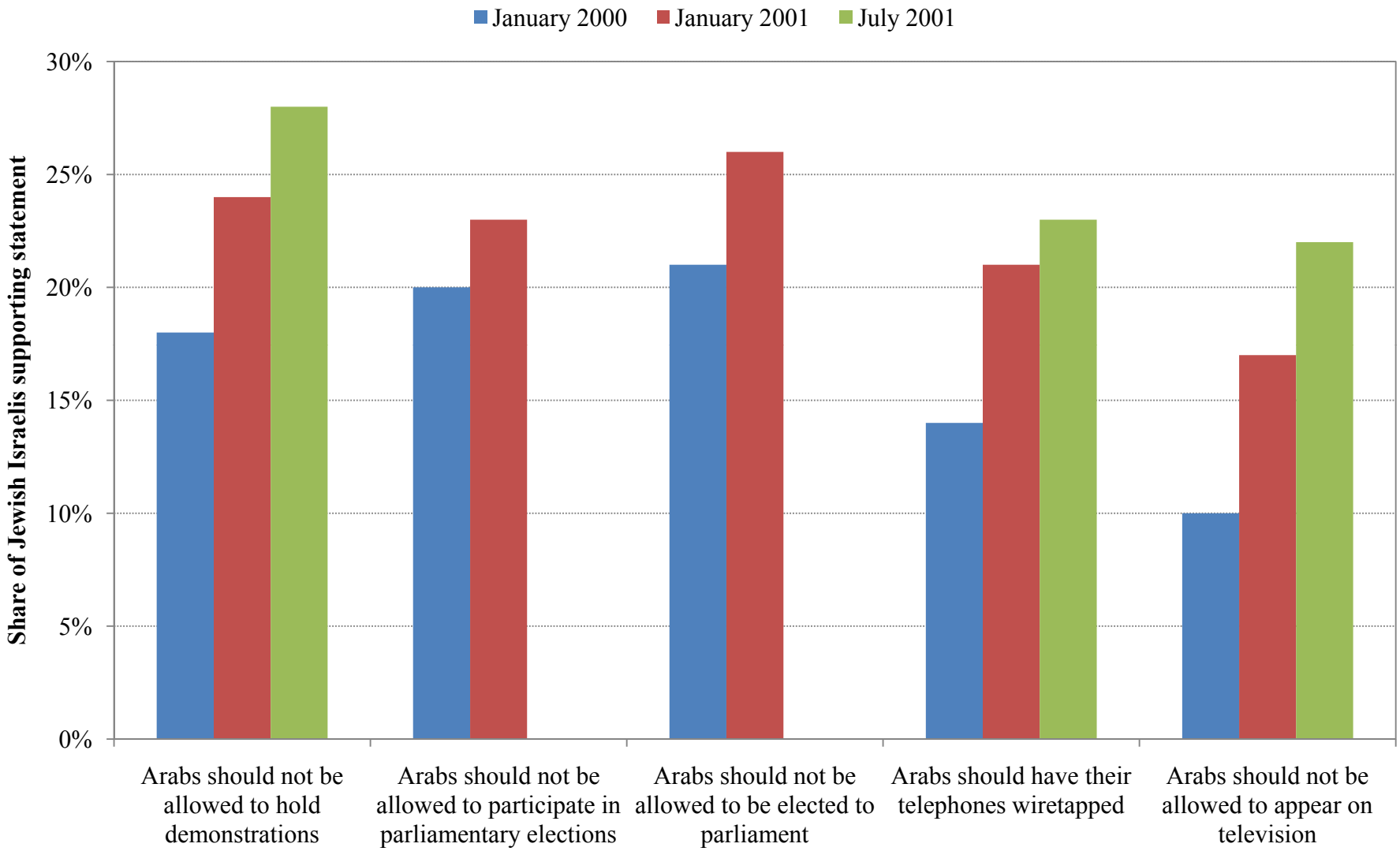
TABLE 5: VOLUNTARY OR INVOLUNTARY SEPARATION?

	No Restrictions	Restriction 1	Restriction 2
Male	2.743***	2.807***	2.621***
	(0.305)	(0.324)	(0.290)
Age	-0.175***	-0.178***	-0.209***
	(0.022)	(0.024)	(0.016)
Married	-2.082***	-1.957***	-1.757***
	(0.211)	(0.226)	(0.200)
Number of children	-0.519***	-0.479***	-0.222**
	(0.115)	(0.124)	(0.106)
New immigrant	-2.304***	-2.155***	-2.448***
	(0.346)	(0.367)	(0.370)
Experience	-4.464***	-4.325***	-2.969***
	(0.228)	(0.249)	(0.203)
Worker's initial salary	-1.535***	-1.537***	-1.423***
	(0.283)	(0.308)	(0.169)
Palestinians and Foreign Workers	0.051***	0.023***	0.007
	(0.007)	(0.006)	(0.007)
Arab	-4.855***	-4.618***	-4.808***
	(0.334)	(0.350)	(0.394)
Intifada	4.746***	2.837***	1.323***
	(0.579)	(0.511)	(0.480)
Intifada*Arab	**2.195*** **	**2.021*** **	**2.195*** **
	(0.340)	**(0.361)**	**(0.372)**
Observations	784,021	709,538	436,415
R-squared	0.071	0.076	0.076

Notes: The dependent variable is the employment status of the worker in the firm (0 employed, 1 unemployed). The sample covers the period January 2000 – June 2001 and includes all workers who started their employment in integrated (Arab-Jewish) firms from January to September 2000. "No Restrictions" – replicates Table 1, column 2. "Restriction 1" – excludes from the analysis cases of bankruptcy. "Restriction 2" – excludes bankruptcy cases and those in which the employee held a parallel job to the job he was separated from and cases in which the employee immediately (within a month) found an alternative job. All coefficients and standard errors were multiplied by 100 for ease of exposition. The regressions were estimated by ordinary least squares with firm fixed effects. Standard errors (adjusted for clustering by firms) are in parentheses. The symbols *, **, *** represent statistical significance at the 10, 5, and 1 percent levels.

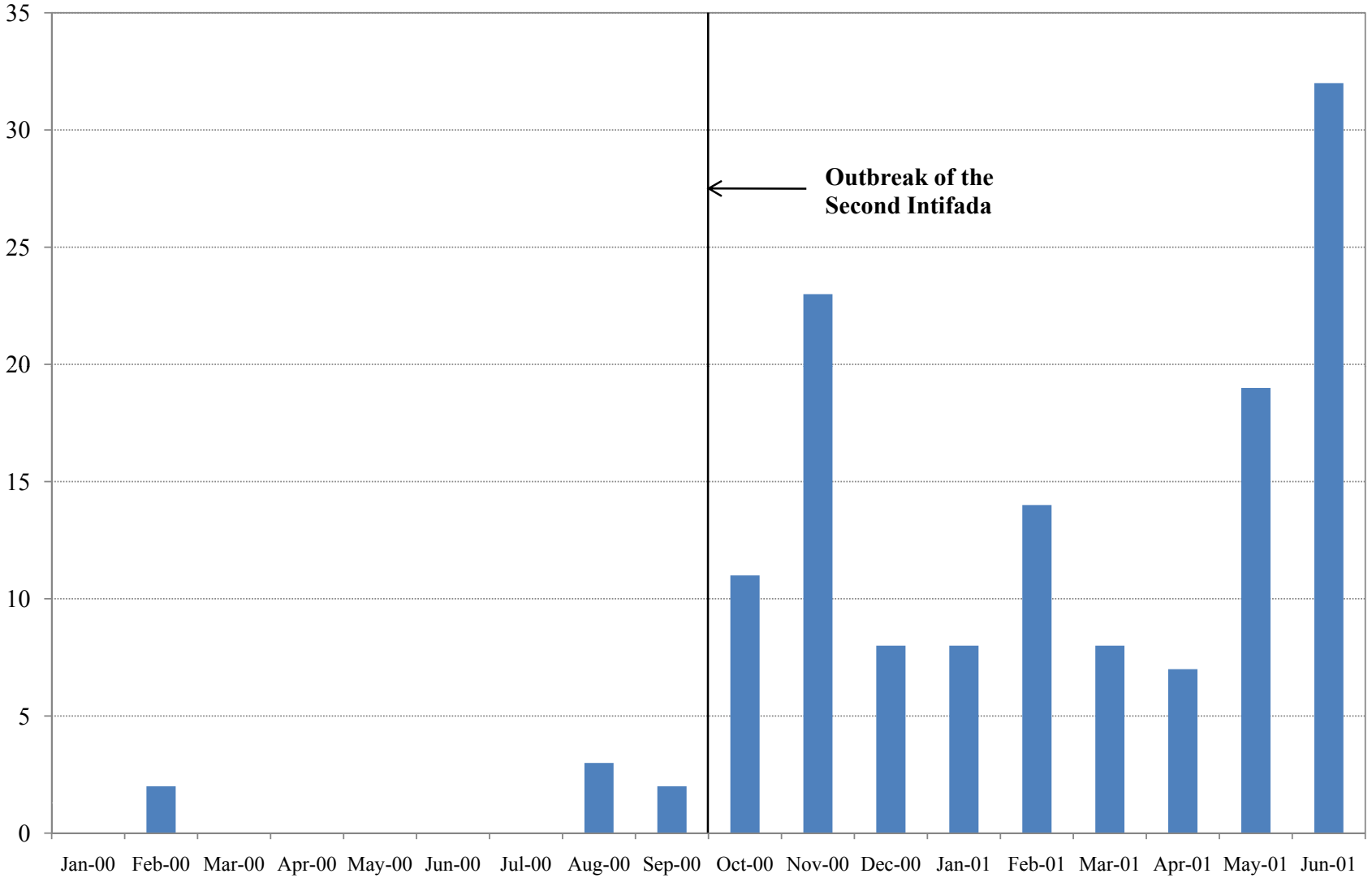
Source: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations.

FIGURE 1: GROWING INTOLERANCE TOWARD ISRAELI-ARABS
JANUARY 2000 - JULY 2001



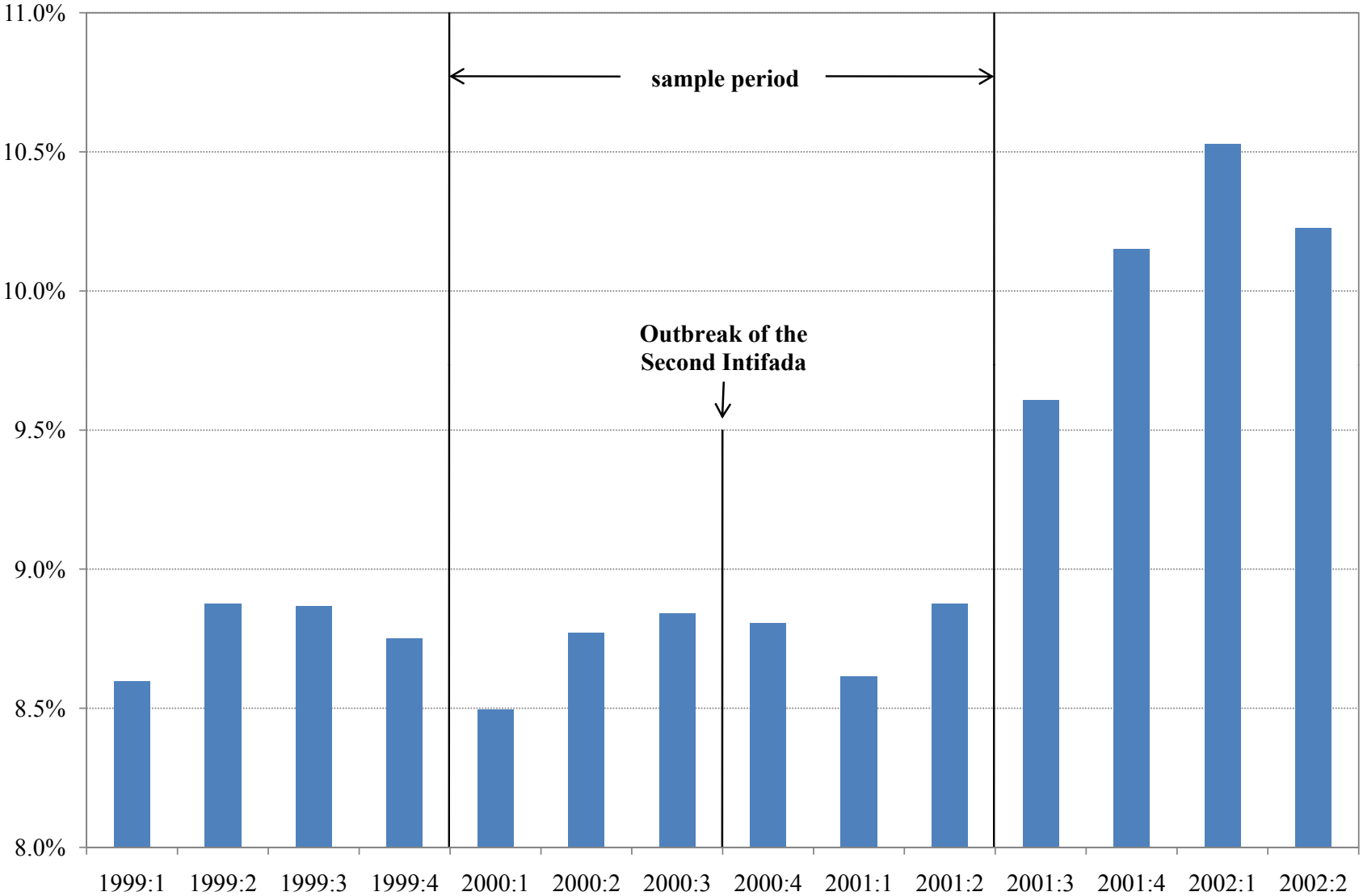
Source: Sagiv-Shifter and Shamir (2002), Table 10.

FIGURE 2: VIOLENCE INTENSITY
NUMBER OF ISRAELI FATALITIES, JANUARY 2000 - JUNE 2001



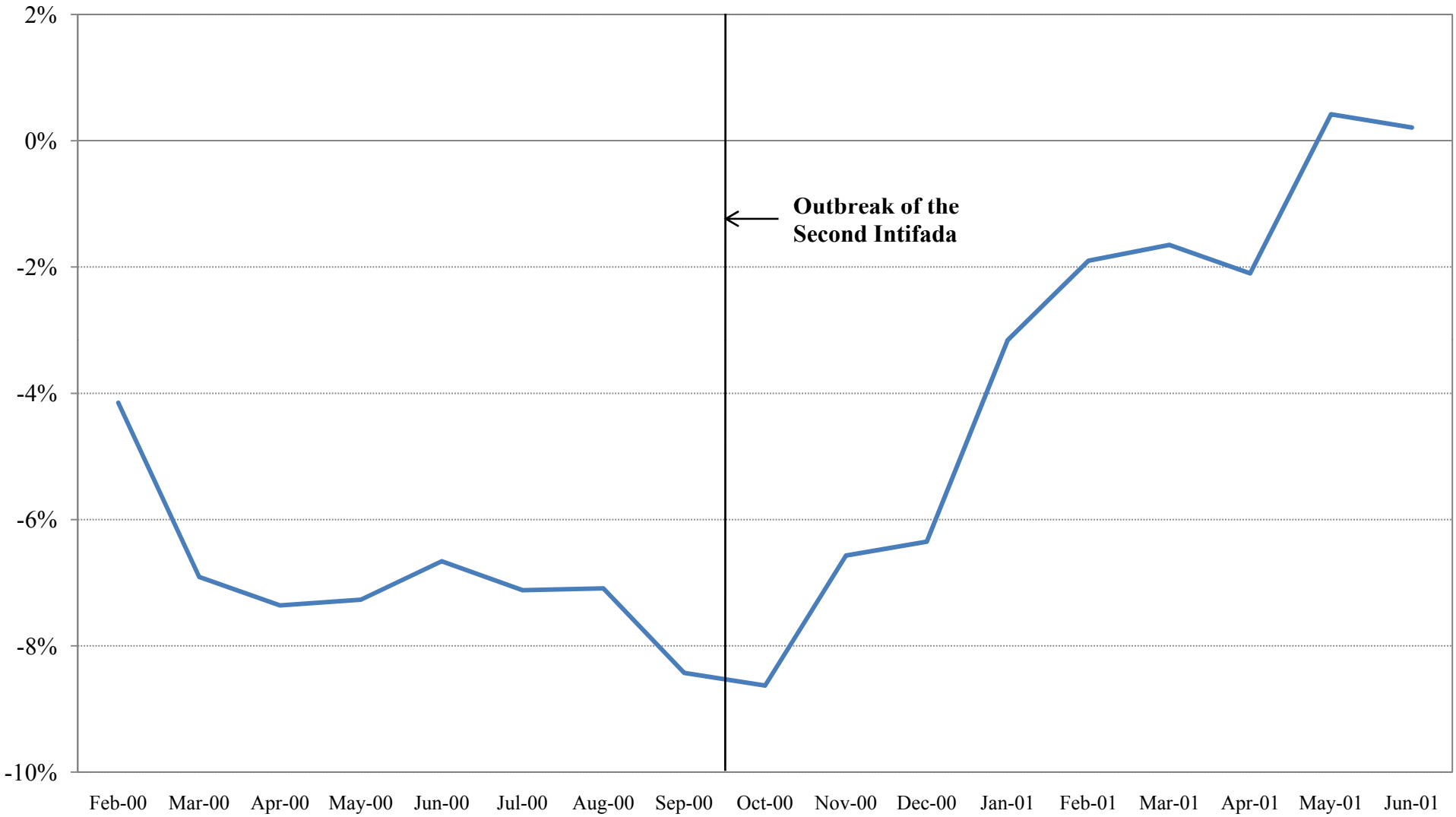
Source: based on a dataset constructed by the authors as described in the text

FIGURE 3: THE UNEMPLOYMENT RATE IN ISRAEL
SEASONALY ADJUSTED, Q1 1999 - Q2 2002



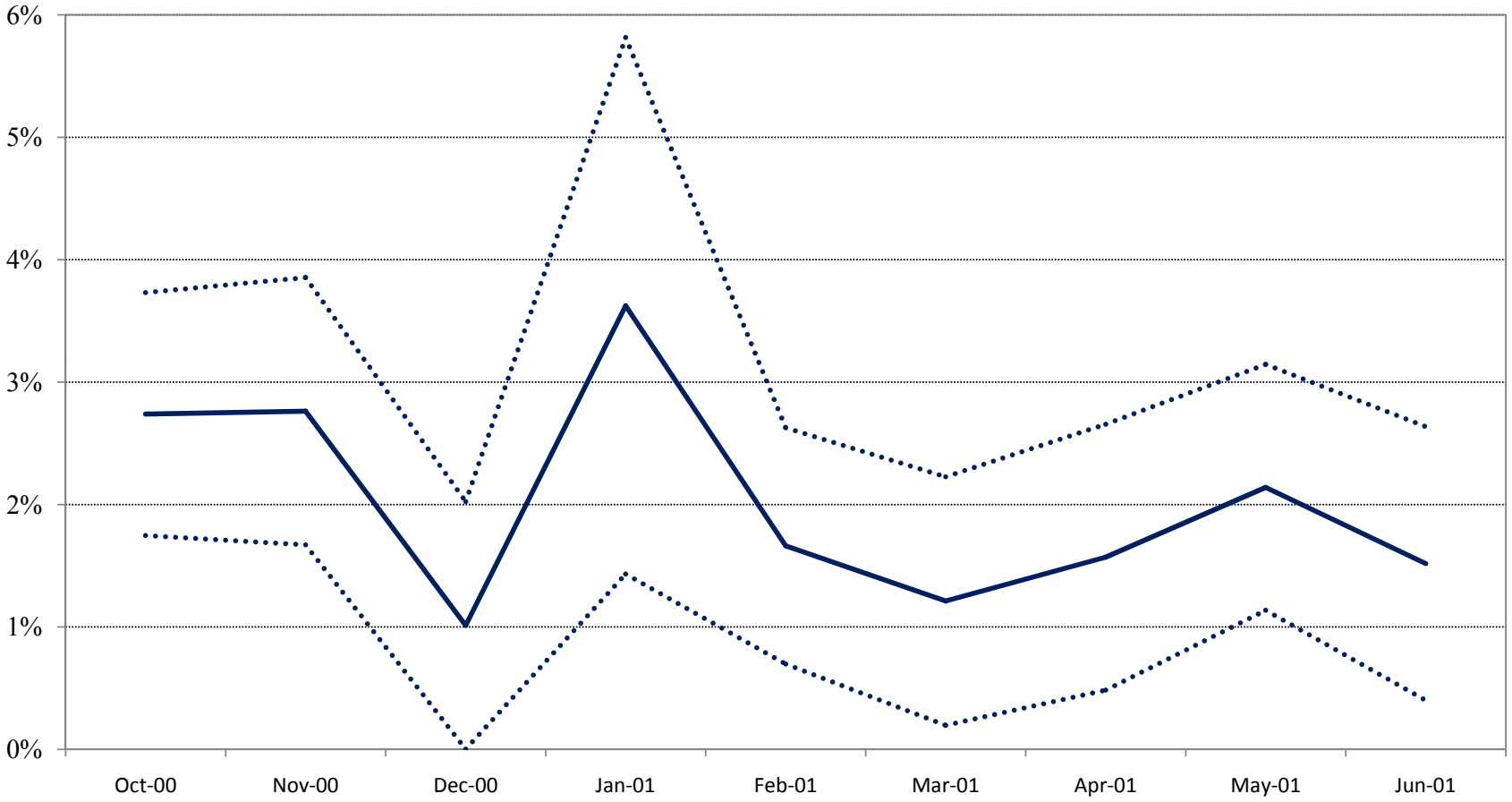
Source: Bank of Israel.

FIGURE 4: ARAB-JEWISH DIFFERENTIAL IN THE CUMULATIVE HAZARD RATE



Source: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations. Notes: the figure displays the difference in the cumulative hazard between Arabs and Jews who started their employment in integrated (Arab-Jewish) firms in January 2000.

FIGURE 5: EFFECT OF THE INTIFADA ON THE ARAB-JEWISH DIFFERENTIAL JOB SEPARATION RATE BY MONTH
ESTIMATED COEFFICIENTS AND 95% CONFIDENCE INTERVALS



Source: Israeli Central Bureau of Statistics (matched employer-employee dataset) and authors' calculations. Notes: the figure is based on a regression of the employment status of the worker on the baseline set of controls, an Arab indicator variable, a set of month indicator variables from October 2000 to June 2001, and a set of interaction terms between the Arab indicator variable and the month indicator variables ; the figure plots the set of interaction terms together with their 95% confidence intervals; the pre-Intifada Arab-Jewish differential job separation rate is -4.86% (standard error=0.34%).