Palestinian Firms' Status and Employment under the Israeli Security Regime: Evidence from Establishment Censuses

Vladimir Hlasny* and Shireen AlAzzawi**

* Associate Professor, Economics, Ewha Womans University, Seoul, Korea, vhlasny@ewha.ac.kr (corresponding author).
**Lecturer, Economics Department, Santa Clara University, Santa Clara, CA, USA, and Research Fellow, Economic Research Forum.

The Israeli occupation of Palestine is accompanied by violence and a repressive security regime affecting firms' operations. We assess firms' status, and female and total employment during 1997–2017 across region–years seeing differently repressive regimes. Indicators of the security regime come from OCHA-oPt, B'Tselem, and World Bank databases. Data on the entire population of establishment–year observations come from five waves of the Palestinian Establishment Census allowing for pooled-cross sectional and limited longitudinal analysis.

We find that establishments facing tighter regimes – mobility restrictions, physical violence and building demolitions in their governorate – are more likely to suspend their operations or engage in restructuring, rather than continue operating. Repressive regimes are also associated with falling employment levels and in some cases, falling female employment shares. Repressive regimes are thus damaging to employment in Palestine through several channels. Some firms do not survive, or enter hibernation. Surviving firms retain fewer workers.

Keywords: Israeli security measures, Palestine, mobility restrictions, conflict, Intifada.

JEL codes: N45, N65, N95, O24.

I. Motivation

Occupation of the Gaza Strip and the West Bank (jointly: occupied Palestinian territories, oPt) by Israel since 1967 has been accompanied by a repressive security and economic regime affecting inter-regional and cross-border mobility of labor, materials and capital. Israel holds keys to Palestinians' access to resources and capital, and opportunities for trade and high-quality employment. However, through a system of land and natural resource expropriation, domestic and cross-border mobility barriers, and intimidation and disproportionate violence, Israel has been imposing heavy burdens on Palestinian workers, establishments and public institutions. This infringes on how they conduct their day-to-day operations, and harms their capacity for contributing to statewide prosperity.

Economic conditions in Palestine have been precarious since the 1990s, to a large degree due to land grabs, threat of violence, and mobility and trade restrictions inflicted by the Israeli authorities (Weinthal and Sowers 2019). Domestic output has grown only intermittently subject to contractions during the years of the Second Intifada, and in the conflict years 2007–2009 and 2013–2014. Amid tightened access to private credit and harder access to suppliers and markets, businesses had a hard time opening, remaining in operation, or expanding. In 1997, over 91.4 percent of operating businesses had four or fewer employees, and less than one percent had over 18 employees. These figures stagnated during the Second Intifada, and have only slightly improved since.

This study aims to advance our understanding of the economic costs of the Israeli-imposed security regime for establishments throughout the oPt. We evaluate the conditions for operating and expanding businesses over the years between regions affected more versus less by the security measures – namely building demolitions, threat of physical violence, and mobility restrictions. Firms' operating and legal status, economic activity, employment and female share of employment are assessed. This analysis is crucial as it shows a direct microeconomic effect of the Israeli security measures on firms' operations, without mediation by the composition of firms in the economy, non-business outcomes in regions' GDP, or cross-region migration of firms and workers.

The study relies on two sources of original specialized data: firm level data on operation status and employment of all Palestinian business establishments are taken from five waves of the Palestinian Establishment Census (PEC 1997, 2004, 2007, 2012, 2017). These censuses span years when the Israeli-imposed security regime was at its least restrictive recent level (year 1997), at the

height of repressiveness (2004, 2007), and in the years when the security situation stabilized and the security measures abated (2012, 2017). The 2017 PEC comes from the latest census wave, and is thus our most recent source of insight on the status and operating conditions of Palestinian firms. The five surveys add up to more than 500,000 establishment-year observations over two decades, and allow us to link some firms' status in a longitudinal setup. Together with descriptive statistics for the 1994 Establishment Census, these data show the evolution of business conditions in Palestine over the past quarter-century.

Years 2004–2017 make up the primary timeframe of our analysis, since many indicators of the repressiveness of the security regimes in individual Palestinian governorates and years started being collected during the Second Intifada. Our key indicators for the security regime – building demolitions, adults injured in conflicts with the Israeli forces, and roadblocks and other mobility restrictions – were collected from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA oPt) and B'Tselem. Alternative indicators were collected from World Bank databases and other sources. Our key contribution to the literature in this study is the use of these specialized security indicators in tandem with the comprehensive Palestinian census microdata spanning over 2 decades of varying degree of conflict, and investigating the effects of the security regime on establishments' operating status and employment across years and governorates. Analysis of pooled cross-sectional data with governorate fixed effects is validated using a limited longitudinal subsample.

The study is organized as follows. Section II outlines the existing evidence of impacts of repressive security measures on the Palestinian economy since the 1995 signing of the Oslo II Accord. Custom literature review is provided. Section III introduces the estimation methods and testable hypotheses regarding the consequences for firms' performance. Section IV describes the data used to evaluate our hypotheses. Sections V and VI present the main results, and conclude with major findings and their implications. An extensive appendix provides supplemental information on the backdrop of the security measures used in Palestine, data used and descriptive statistics, and additional results.

II. Security regime in Palestine and its economic impacts

The time period evaluated in our analysis, 1994–2017, spans a tumultuous quarter-century following the signing of the 1993 Oslo I Accords. This covers years from before the outbreak of the Second Intifada in 2000, through the Gaza Disengagement Plan in August 2005 leading to

Israel's withdrawal from Gaza, the Israeli blockade and military offensives in Gaza during 2007–2008, and the clashes of the Israeli and Hamas forces in 2008–2009, 2012 and 2014. The analysis also covers the period before and during the construction of a separation barrier in the West Bank that started in 2002, and the continued expansion of Israeli settlements and restricted-access areas in the West Bank since the Second Intifada.

The occupation regime imposed by the Israeli authorities has not been applied uniformly between the Gaza Strip and the West Bank, or across governorates. Moreover, the occupation regime takes several distinct forms: limits on Palestinians' access to vital resources, threat of physical violence, and mobility and trade restrictions. The manifestations of these security provisions and their impacts on economic activity are discussed in the following paragraphs.

Resource expropriation and limits on access

Under the Oslo Accords of 1993, the Palestinian Authority was granted full control over security and civilian affairs in Palestinian municipalities (Area A, 18% of the West Bank's land), and control over civilian affairs in Palestinian rural communities (Area B, 20% of the West Bank). Security in Area B was to be under the joint control of the Palestinian and Israeli forces. Israel was granted full control over its settlements in the West Bank and Gaza, the connecting 'bypass roads,' and the sparsely inhabited vast majority of the Jordan Valley and the Dead Sea area (Area C, 61% of the West Bank). Palestinians living in Area C – 51 percent of the Palestinian population, 260 villages in all – are severely limited in their autonomy, use of natural resources and building of structures (Niksic et al. 2014 and references therein). Structures they build are subject to arbitrary demolition without prior warning.

In 1993, areas A, B and C were clearly delineated, and their agreed administration and security regimes were fully in effect. In the following years, particularly since the start of the Second Intifada, Israel systematically intensified its encroachment on the West Bank territories. Area C became the home of an increasing number of internationally unrecognized Israeli settlements, and illegal new outposts (figures A4–A7). These settlements and outposts have been gradually receiving greater recognition under the Israeli law and, correspondingly, continue proliferating and growing (Peace Now 2017). All of the West Bank with the sole exception of Ramallah has effectively come under the administrative regime of Area C. Palestinian private parties have had limited ability to register land ownership and put it to efficient long-term use (World Bank 2017b).

As of 2018, there were 40.22 kilometers of West-Bank roads where Palestinian vehicles were prohibited, and 19 kilometers where Palestinian vehicles were restricted.

Through the continuously expanding Israeli-sanctioned settlements, yet-unsanctioned outposts, military zones, control of Palestine's transportation network, and inflows and outflows of capital, Israel has effectively come to control crucial resources in Palestinians' own land, including large swaths of arable land, fresh water, as well as a significant share of public revenues. The impacts of these encroachments on economic activity, particularly at the micro level, are subject of few academic studies. Restricting areas, roads and other infrastructure to Palestinians' acess has been confirmed to cause fragmentation of Palestine into disjointed markets, as well as to harm Palestinians' livelihoods, ability to conduct business, and welfare (Weinthal and Sowers 2019). Conflict may be pushing firms from the formal sector into the informal sector (Oberholzer 2015). Israeli authorities use these mechanisms to apply pressure on Palestinian authorities and citizens, punish acts of opposition, as well as directly advance the interests of Israeli citizens and voters (Margalit 2014).

Threat of violence

The security regime in Palestine has been tight ever since the beginning of the Second Intifada. Beside outbreaks of mass violence, the territory has seen a proliferation of military personnel, patrols and roadblocks. Palestinian residents have been subjected to curfews, long waits at checkpoints, arbitrary detentions and arrests, even physical violence. Israeli settlers have also used violence against their Palestinian neighbors, allegedly with impunity. Such risks of harassment, arrest or physical harm at the hands of the Israeli forces and settlers take their toll on Palestinians' capacity to travel, work and conduct business.

Years 1995–2000 were a period of stability under an interim rule of the Palestinian Authority, when the final resolution was expected to be negotiated. The period saw a large inflow of donor aid, and the return of many Palestinian entrepreneurs from abroad. In September 2000, however, the Second Intifada erupted, partly on account of slow progress in negotiations. The uprising quickly escalated, with violent confrontations peaking in the summer of 2002. The uprising raged for five years, leading to significant losses of life and destruction of infrastructure and property. Israel also imposed restrictions on cross-border movement and trade, causing further harm to Palestinians' livelihood and reconstruction efforts.

The uprising ended and trade restrictions on Palestine were partially lifted in the summer of 2005. That summer Israel disengaged from Gaza, withdrawing its military forces, forcibly relocating all settlers, and dismantling all settlements. However, the relaxation was short-lived. Following Hamas's victory in the Palestinian Authority's legislative elections in January 2006, Israel and the Quartet on the Middle East (UN, EU, Russia and US) imposed economic sanctions on Gaza, including a complete trade blockade and punitive measures against Hamas's government and by extension Palestinians living under its control, such as cuts to fuel and electricity supplies, and periodic military offensives in Gaza (B'Tselem 2014).

In 2008 hostilities between Hamas and Israel intensified again, leading to the January 2009 Gaza War (Operation Cast Lead). The humanitarian situation in Gaza deteriorated further, leading to "a massive destruction of livelihoods and a significant deterioration of infrastructure and basic services" for Palestinians (Mansour 2009:1). After a short period of relaxation and economic reconstruction, 2009–2011, the security situation worsened again in 2012–2014 with violent incidents in Gaza in March and November 2012, and July 2014.

Existing studies have, for the most part, focused on violence that occurred in the Second Intifada and the three Gaza Wars (Dec. 2008–Jan. 2009; Nov. 2012; July–August 2014). During the Intifada, many welfare and business-climate indicators were found to have deteriorated in 2002 and subsequent years. In both Gaza and the West Bank, construction materials and permits became hard to come by, and the provision of public services and infrastructure, such as roads, hospitals and sanitation deteriorated. This also affected factor and output prices.

A number of studies have also investigated the opposite causal link – from labor market conditions or trade performance to outbursts of violence (Calì et al. 2014; Longo et al. 2014; Miaari et al. 2014; Calì 2015), and the cyclical dynamics of violence between the Palestinians and the Israelis (Jaeger and Paserman 2008, 2009). Jaeger et al. (2012, 2015) studied the repercussions of Israeli-Palestinian violence for Palestinians' political attitudes.

Mobility restrictions

As part of the security measures enacted following the outbreak of the Second Intifada, Israeli authorities set upon monitoring and controlling Palestinians' movement. Israel started building a separation barrier in the interior of the West Bank in 2002, imposed a system of roadblocks, checkpoints and other mobility obstructions, and tightened restrictions on cross-border mobility of workers and trade in goods. It was because of these measures that economic deprivation of Gaza

and the West Bank deepened in the latter years of the uprising. The separation barrier led to a fall in labor force participation rate in the West Bank, particularly among women, even though unemployment rate dipped in the short-term on account of the construction activity (Oberholzer 2015).

All goods entering or exiting Palestine via Israel were required to use Israeli transport firms, and were subject to similar screening procedures as at internal checkpoints. Under a *back-to-back* security system, trucks were restricted from entering urban areas in Palestine, so all goods had to be reloaded from trucks at special border facilities onto other trucks waiting on the other side. This increased costs and caused delays, spoilage and damage to goods (ITC 2015). Companies' costs of exporting rose by a factor of 2.3, and those of importing by a factor of 3.8 compared to Israeli firms (Akkaya et al. 2008). An outright economic blockade of Gaza was imposed in 2007, leading to the plummeting of exports to 3 percent of their 2005 levels (Judis 2014; Etkes and Zimring 2015). This complicated firms' access to their suppliers, workers and customers. In Gaza, the strict closure that had restricted the movement of people, materials and capital in and out of the territory led to particularly adverse conditions (State of Palestine 2014).

In the West Bank, mobility and trade restrictions persisted even after the Second Intifada, representing one of the major constraints on firms' operations (World Bank Enterprise Survey 2006-2007 cited in World Bank 2013). Permanent full-time and part-time (hereafter 'fixed'), and temporary ('flying') road checkpoints expanded over time continuously. The number of full- and part-time checkpoints rose from 64 in January 2004, to 85 in 2007, 105 in 2012, and 103 in 2017 (refer to tables A7–A8). During 2015, 91 road obstacles were constructed, including new checkpoints, roadblocks and earth mounds, on top of the 452 in existence from prior years (OCHA oPt 2016). In 2014, the only crossing between Gaza and Egypt in Rafah was shut down, limiting the ability of workers and businesses to access markets, suppliers and social and health services across the border.

To this day, because of the poor state of infrastructure and the multitude of restrictions on Palestinians' operations, local firms have difficulties performing day-to-day activities, cannot compete in exports and have a low prospect for expanding (Van der Weide et al. 2015). This drags down the statewide economy, keeping Palestine in a perpetual deprivation trap in need of donor aid (World Bank 2013).

Existing studies estimate the impacts of mobility restrictions on market outcomes. Because of potential endogeneity of the prevalence of restrictions to the economic and security situation on

the ground, a number of studies focus on identifying direct one-way effects. Calì and Miaari (2015) studied the effects of the Israeli trade regime on Palestinian exports to Israel, using Chinese exports and Israel's reduction in world-import tariffs as arguably exogenous instruments. In Palestinian economic sectors and localities where production inputs were affected by import restrictions, output and wages were found to fall (Amodio and Di Maio 2017; Amodio et al. 2017). Abrahams (2018) found that Israeli checkpoints in the West Bank obstructed workers' access to suburban employers, but simultaneously led to employment gains at urban employers. The effects were much lower on female workers than on men.

In relation to Palestinians' employment in Israel, wages, hours worked, and employment in Palestinian border regions were affected by the tightening of a work permit system during the Second Intifada, particularly in Gaza. Mansour (2010) found that the restrictions on Palestinians' employment in Israel have increased labor supply, and consequently lowered low-skilled wages and increased unemployment in the West Bank. To account for potential endogeneity of workers' return to Palestinian cities, Mansour used the typical pre-existing reliance on Israeli employment from each city as an instrument.

Miaari and Sauer (2011) estimated the effects of the Israeli policy toward Palestinian workers – the importation of overseas workers to substitute for Palestinian workers, and border closures – on employment levels and wages in Palestine. Instrumenting for the importation of overseas workers was the count of foreign worker permits issued by Israel, while the border closures were treated as exogenous. The authors argued that their estimated effects were lower bounds, on account of their conservative measures of conflict intensity.

Focusing on the effects of the security conditions on labor supply and demand, Fallah et al. (2019) estimated the effect of labor demand growth on women's and men's labor force participation rate using a shift-share instrument, isolating exogenous labor-demand shocks in individual economic sectors. Miaari (2018) decomposed public-private sector wage gaps in Palestine into parts due to workers' changing characteristics and those due to returns to those characteristics. He confirmed that employment and wages in the public sector were protected from the Israeli-Palestinian conflicts.

III. Methods

We aim to quantify the effect of the security regime imposed by Israeli forces on the operating status and labor utilization across all Palestinian establishments. There are two

measurement problems, those of measuring the restrictiveness of the security regime at firms' locations, and of estimating its impact on firms' performance. First, we must select summary indicators quantifying the restrictiveness of the security regime in effect in each Palestinian governorate at the time of the five PEC surveys. Second, we must link these security-regime measures to several dimensions of firms' observed performance.

Quantifying the restrictiveness of the security regime

Each dimension of the security regime – including resource expropriation, threat of violence, and mobility and trade restrictions – is expected to affect firms' performance, but through different channels and to a different extent. For instance, the proximity of a settlement to a Palestinian neighborhood could trigger violence, which could lead to mobility restrictions as well as detentions, all potentially leading to declining labor supply or demand. We should account for these multiple factors simultaneously, to estimate their stand-alone impacts.

Moreover, there are multiple indicators of each dimension of the security regime (i.e., types of resource expropriation, threats of violence, and mobility restrictions), for example: expropriation of land or demolition of buildings; fatalities, injuries or detentions; and permanent or flying checkpoints, or earth mounds. Such multiple indicators tend to be collinear and may have weak individual explanatory power. For some indicators, missing values or low variation across governorates or years present additional problems. We thus select single indicators for resource expropriation (namely, building demolitions), threat of violence (adults injured in relation to direct conflict), and mobility restrictions (permanent checkpoints), as most relevant to firms' performance, and representative of other indicators in their respective dimensions of the security regime. The count of Palestinian fatalities killed by Israeli forces has been used in prior studies as the main measure of conflict intensity (Miaari et al. 2014; Calì and Miaari 2015, 2018). Instead, our study uses the count of Palestinian adults *injured* by Israeli forces as a measure that is more directly related to labor markets and more prevalent, thus exhibiting better variability across governorate–years.

Building demolitions and permanent checkpoints are normalized by governorate area, and are thus interpreted as densities, while adults injured are normalized by governorate population, and are interpreted as population shares. These indicators exhibit acceptable cross-sectional and time-series variation, comparability across governorates and years, and availability for four survey years (2004, 2007, 2012, 2017) as well as selected lagged years.

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Other sets of available indicators were considered in regressions, but led to inferior results because of their weaker theoretical relevance, weaker statistical properties, and multicollinearity. As an alternative, parsimonious indicator of the multiple dimensions of security regimes, a time- and space-varying summary index is obtained from a principal component analysis (PCA) of all observable indicators of the restrictiveness of the security regime in all available governorates and years. This method is used as a simple test of the robustness of the main 'three indicator' model. To our knowledge, this is the first time PCA is used to gauge the degree of restrictions imposed on civilians' mobility across regions, although it has previously been used to measure regulation or governance quality across countries.

The various dimensions of the restrictiveness of security regimes are thought to have bearing on Palestinians' ability to open, run and expand business, and on the establishments' performance. This gives rise to two testable hypotheses:

H1: The intensity of a security regime in a governorate affects negatively the operating status and performance of establishments residing there.

Security measures affect the costs and risks associated with working and operating a business in each governorate. They increase firms' operating costs of doing business, transportation and transaction costs, and costs of retaining labor, and they affect adversely firms' revenues. This happens through various channels. Security measures such as road checkpoints cause delays in the deliveries – and raise the risk of non-delivery – of productive factors or parts. They increase the risk that firms' products will not reach markets, will get there subject to extensive spoilage, or their customers will not arrive. The threat of personal searches, arrests, or other violence also affects adversely firms' ability to rely on their workers, suppliers and customers thereby intensifying their insecurity.

The second hypothesis concerns firms' response to the burdens and uncertainty. To the extent that firms may have the ability to relocate at some finite cost between areas facing different levels of security measures, we should find evidence of that in panel data.

H2: Establishments operating under tighter security regimes tend to put themselves out of harm's way by relocating to governorates facing looser security regimes.

Fixed-effects estimation

To isolate the effect of local security regimes on firms' operating status and performance, we rely on regression analysis with governorate and industry fixed effects. The alternative summary measures of security regimes are linked to firms' operating status, employment, and female share of employment. The following reduced-form regression specification is estimated:

$$y_{irt} = \alpha + \beta z_{rt} + \gamma_1 x_{1\,it} + \gamma_2 x_{2\,rt} + \delta t + (e_r + u_{it}) \tag{1}$$

where y_{irt} is the outcome of interest for establishment i in governorate r in survey wave t, z_{rt} is the index of security measures in firm i's governorate r in year t, $x_{1\,it}$ is a set of control variables at the level of firms i including industry indicators, $x_{2\,rt}$ is a set of governorate-level controls, t is a linear time-trend indicator, e_r are governorate-level unobserved fixed effects, and u_{irt} is an idiosyncratic firm-level time-varying shock. $\alpha, \beta, \gamma_1, \gamma_2, \delta$ are estimable linear parameters, where β is the policy-impact estimator of interest. The baseline specification is augmented by interaction terms of the security-regime indicators and groups of establishments seen as particularly vulnerable to them: private firms, and firms in transportation and trade sectors. Because information on security measures leading up to the 1997 PEC is missing, analysis is restricted to 2004–2017 survey waves.

As a benchmark estimator for equation 1 – for various performance indicators y_{irt} – we use ordinary least squares (OLS) regressions with governorate-level fixed effects. These models are expected to yield consistent and efficient estimates of the effects of security regimes on establishments' performance, as long as the security-regime index is measured consistently and is exogenous to the error term, and any measurement error in it is uncorrelated with the observed index. Without any evidence to the contrary, these assumptions are believed to hold, at least approximately. $\hat{\beta}$ gives the predicted change in firms' outcome from a tightening in the local security regime by one unit. $\hat{\beta}/100$ is the predicted change in firms' propensity to be operational (percent change in firms' employment; or percentage-point change in female employment share) when the density of checkpoints or building demolitions rises by one per 100 square kilometers, or the prevalence of adult injuries rises by one per 100 residents.

Robustness tests

The baseline specification is subject to various limitations, some of which can be tested or mitigated. One concern is with modeling of the effects of security measures on economic outcomes

as instantaneous. To the extent that changing geo-political conditions may have gradual, cumulative effects on firms' outcomes, and firms can take months to adjust their workforce to changing conditions, the full effects may be observed only with a delay of one or two years. In that case our estimates $\hat{\beta}$ may be at the lower bound or underestimated for the total impacts of security measures. To test this, we control for security measures lagged by one or two years, and even include distributed lags of security measures and test their joint significance.

Moreover, some indicators of the security regime, such as the density of road checkpoints or the prevalence of physical violence, may be endogenous in equation 1. External factors, such as Palestinians' attacks on the Israeli forces may be affecting firms' operations and labor demand, and at the same time inciting Israeli countermeasures (Abrahams 2018). Labor market conditions may themselves also lead to violence (Miaari et al. 2014). If these effects materialize in quick succession, and if we fail to control for them in regressions, this would render our estimates inconsistent and too high for the true impact of the Israeli security regimes.

Empirically, the problem is mitigated by using the policy variables in their lagged form. With a time delay between violence instigated by Palestinians, local firms' exposure to it, and Israeli countermeasures – such as setting up infrastructure of permanent checkpoints (flying checkpoints are excluded by design) or approving demolitions of structures – the bias to our estimates will be indirect and minor. Calì and Miaari (2018) argue that mobility restrictions are exogenous to labor market conditions. Even for conflict-related injuries and building demolitions (and other indicators), it is plausible that violence is incited by regional unemployment or poverty levels, but not by the performance of individual private-sector non-agricultural firms in those regions. We have tried to test a relationship between firms' employment across governorates, and Palestinians' violence toward the Israelis there, but the data are too sparse and sample too small to provide a meaningful test. We do not attempt an instrumental variable approach, because of a small effective sample size (up to 16 governorates×4 waves) and lack of reliable instruments.

The baseline specification uses a linear time trend, industry indicators, and governorate-level fixed effects for their parsimony, robustness, and theoretical suitability. The concern with more intrusive variables – including firm-level effects and year indicators – is that they would remove a substantial amount of meaningful variation from the dependent variables or explanatory variables of interest. Clearly some years saw a tighter security situation throughout the oPt. This effect should be evaluated through the security-regime indicators rather than through year dummies, under the hypothesis that the effect of such state-wide shocks operates primarily through the

observed security regime. Since the counts of checkpoints, injuries and building demolitions exhibit different trends over time, only by omitting year dummies can we estimate their effects on firms' performance accurately. Instead we consider adding governorate-specific time trends to account for secular time trends that vary regionally.

One concern with pooled cross-sectional data is that sample selection across survey waves – firms' refusals, misreporting or item-nonresponse, or changes in legal and operating status – can taint our estimation results. We estimate equation 1 on longitudinal data of firms matched across multiple census waves – the 2004–2012 waves for 86,204 firms (69,609 firms, 122,291 observations, used in regressions). This becomes our main specification, which we then compare to regressions estimated on the full pooled cross-sectional sample (288,378 firms, 343,249 observations, used in regressions).

Another concern with pooled cross-sectional or longitudinal data is the correlation of firms' errors u_{it} across waves, and the resulting effect on error variance. Because the main explanatory variables are at the governorate level, errors should be clustered by governorate. Error variance should also be corrected for arbitrary heteroskedasticity, because of the limited range of dependent variables and measurement errors in explanatory variables.

Clustering at the governorate level introduces a problem of imprecise inference because of the small number of groups. Because our policy variables are at the level of 16 governorates, we may not use asymptotics to evaluate coefficient test statistics. One solution would be to use a two-step procedure involving first-step 'within group' estimation of firm-level determinants $\hat{\gamma}_1$ and predicted governorate-level $\overline{y_{rt}}$, and a second step 'between-group' regression of $\overline{y_{rt}}$ on governorate-level predictors. Another solution, followed here, is to use 223 governorate–industry clusters (198 used in regressions), recognizing that security measures have differential effects across sectors.

IV. Data

Information on Palestinians injured in the context of the occupation and conflict comes from OCHA oPt. Data on demolitions of housing units without permits are obtained from B'Tselem. Data on permanent checkpoints were generously provided by Roy van der Weide, World Bank. These variables have an adequate degree of availability and variation over time. (Tables 2 and A7–A8, and figures A2–A21 in the appendix present selected summary statistics.)

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On the side of individual establishments, information is taken from five waves of the PEC, 1997–2017. The PEC covers all economic establishments across Palestine without restriction on their size, incorporation or purpose. All Palestinian territories except East Jerusalem (J-1) are covered. The public-access PEC microdata include information on establishments' operating status, economic organization and legal status, main economic activity, and male and female employment (appendix tables A2 and A3a,b).

The five waves of the Census, for 1997–2017, cover 99,000–170,000 establishment records each, adding up to an unbalanced panel of 630,000 records of non-agricultural establishment-years (545,000 in operation). Summary statistics are also available for the 1994 wave (66,000 establishments), comparable to the 1997–2017 waves.

Between the 2004, 2007 and 2012 waves, a significant share of establishments can be matched by their identifiers, allowing us to track establishments over time as a function of security conditions on the ground. The panel setup allows us to control for latent establishment characteristics through establishment-level fixed effects ($\widehat{e}_\iota$). Of the 117,153 establishments in year 2007, and 132,874 in year 2012, 78,080 are present in both years (yielding 156,160 or 62.5% of observations). Similarly, of the 112,820 establishments in year 2004, and 117,153 in year 2007, 20,102 are present in both years (40,204 or 17.5% of observations). While these statistics point to non-trivial problems tracking establishments over time – so we should exercise caution evaluating establishments' birth and demise – we can study the expansion and change in operating status for firms in multiple waves. (Historical backdrop of the PEC survey waves is reported in appendix 3.)

V. Results

This section starts by reporting selected trends in the composition of the Palestinian economy and business establishments' characteristics as evidenced by the 1994–2017 waves of the PEC. Next, we describe the tightness of the security regime across governorates and years, and report the main results for equation 1. The concluding paragraphs evaluate the hypotheses *H1* and *H2*, and offer some discussion of the robustness of our analysis and the economic implications of the main findings.

Composition of the Palestinian economy over 1994–2017

Table 1 reports the distribution of firms in the Palestinian economy and their evolution during 1994–2017 as evidenced through the six waves of the PEC. The share of firms with active

operations is reported to have fallen from 91 to 82 percent between 1994 and 1997, partially recovered to 86–88 percent during 2004–2012, and fully recovered only by 2017. As many as 10 percent of firms were reported to be temporarily or permanently closed before the Second Intifada. This share fell to 5–7 percent during the Intifada, rose sharply to 14 percent in 2012, and only abated to 4 percent in 2017. Between 77 and 96 percent of establishments were private for-profit firms over the years, bottoming out at 77–91 percent during 1997–2004, and peaking at 94 and 96 percent in 1994 and 2007, respectively. The share of sole proprietorships and single-unit firms among establishments rose significantly during 2004–2017 relative to the pre-Intifada period.

We should note that the distributions of firms' operating and legal status are somewhat volatile across census waves, confirming that the classification of these statuses has not been standardized. By contrast, the distributions of firms' industry and employment are consistent over time, suggesting that measurement errors may not be a substantial problem among economically active firms, and that the survey cross-sections are comparable in real economic terms.

The share of manufacturing firms diminished between the signing of the Oslo Pact and the end of the Intifada, from 19.3 percent in 1994, 16.4 in 1997, and 13.5 in 2004. It has stagnated ever since, between 12.4–14.9 percent. The share of trade-sector firms increased during the Intifada and in its aftermath, compared to years 1997 or 2012–2017. This corroborates prior evidence that conflict affected industry composition in Palestine.

The typical size of private firms fell during 2004–2007, from 2.6 to 2.5, before rising to 2.7 during 2012–2017. Female share of employment at private firms fell monotonically and sharply during 1994–2004 (from 12.4 to 9.0 percent), and again increased monotonically in the following years (from 11.7 to 16.4 percent). Labor markets appear to have become more concentrated during 2004–2007 compared to years 1997 or 2012–2017. Given that the typical firm size decreased during 2004–2007, this suggests that firms became more heterogeneous in their labor utilization during these years, potentially affecting factor-market competition.

Tables A3*a,b* show that these trends hold both in the West Bank and in Gaza. Gazan firms are more likely to be sole proprietorships and less likely to be shareholding companies, and tend to be smaller in their employment. The share of manufacturing firms has been systematically lower in Gaza by 3–4 percentage points, consistent with the greater intensity of conflict and long-lasting blockade there. Up to 2004, the share of firms engaged in trade was same in the two territories, but since 2007 the share in Gaza has come to exceed that in the far-larger West Bank.

These statistics suggest that the conditions during the Intifada and in its immediate aftermath led to, or favored, firms having simpler ownership and structure, and smaller size, relatively to more elaborately incorporated firms. The conditions for manufacturing deteriorated while the need for importing firms improved. Because the security regimes vary in their tightness across governorates and years, and because economic forces beside the security regimes affect firms, we use formal methods of testing the implications of security-regime tightness for firms' performance, through equation 1 and selected robustness tests.

State of the security-regime tightness

Three indicators of the security-regime tightness are used as the policy variables of interest in our analysis: Palestinian adults injured in conflict as a share of population, and permanent checkpoints and building demolitions as densities per square kilometer. Reviewing these indicators reveals that Jenin, Jericho and Tubas consistently rank as having among the lowest densities of permanent checkpoints, and Jerusalem and Hebron the highest. Hebron and Tubas have consistently low shares of Palestinian adult injuries, and Nablus and Qalqiliya have high shares. Bethlehem, Jenin and Ramallah have modest densities of building demolitions, while Jerusalem, Nablus and Qalqiliya have elevated densities. The ranking of governorates varies across indicators and over time, and exhibits different intertemporal trends across governorates (Figures A2–A21). This heterogeneity facilitates precise estimation of the effects of security measures on economic outcomes. Nevertheless, because of potential statistical and measurement issues with our baseline security-regime indicators, several robustness tests are conducted. The following section reports the results of our benchmark estimations and selected tests.

Effects of the security regimes on establishments' outcomes

Table 4 reports the results of our main regression models on a semi-balanced panel of 69,609 establishments (those appearing in at least two waves during the 2004–2012 timeframe), in odd columns, or on the full sample of all establishments for 2004–2017, in even columns.

To estimate the effects of security regimes on firms deemed most vulnerable to them, interaction terms of the regime variables and indicators for private ownership are used. For checkpoints, interactions with indicators for transportation, and trade industries are also used. The most policy-relevant results, or treatment effects, are thus linear combinations of the coefficients on the regime indicators and all interaction terms. For instance, the treatment effect of the density

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of checkpoints on private transportation firms is $\left(\beta_{checkpts} + \beta_{checkpts \times private} + \beta_{checkpts \times transport}\right)$. To save space, the top four rows of table 4 report these treatment effects along with the composite standard errors, instead of the full set of individual coefficients (available on request).

The treatment effects and coefficients in regressions of log employment are interpreted as the percentage effects on employment of a 0.01 change in the corresponding explanatory variables. The treatment effects and coefficients in regressions of the female share are interpreted as the percentage point effects of a 0.01 change in explanatory variables on women's share.

Regressions in table 4 include a set of indicators for firms' ownership and operating structure, a full set of industry and governorate fixed effects, and a linear time trend. Regression errors are clustered at governorates, and error variances are made robust to arbitrary heteroskedasticity. Despite these robustness corrections, and despite the small magnitude of coefficients, many coefficients are highly significant. This is on account of large sample sizes. In fact, significance further increases when errors are clustered at the level of industry–governorates or firms (available on request).

Rows 1–2 in table 4 show the treatment effects of security checkpoints on the employment at private transportation and trade firms. An increase in checkpoint density by one per 10×10 kilometer area (nearly one standard deviation) reduces total employment at transportation firms by 7.5–9.1 percent, and at trade firms by an insignificant 0.6 percent. Checkpoint density has no clear effect on female employment, or female share of total employment, but it increases the female share at private transportation firms, by 0.5–3.2 percentage points for a unit increase in density per 10×10 kilometer area. Given that the female share ranged from 9.9 percent in 2004 to 18.5 percent in 2017, this is a substantial effect. Across all columns, this suggests that road restrictions affect transportation firms, and lead to a reduction in demand for transportation workers who tend to be male. There is no clear effect on the employment of female transportation workers, explaining why their share of total employment somewhat increases.

In the trade industry, a unit increase in the density of security checkpoints reduces total employment by 0.6 percent. Female employment and the female share appear to be resilient, suggesting that trade jobs held by male workers are somewhat more vulnerable. Since the mean density of checkpoints across Palestine has been around 1.9/100 km², we may extrapolate that

private transportation employment has been affected by up to 15 percent, and trade employment by one percent.

Rows 3–4 report the effects of regional violence and building demolitions on the status of employment at all private firms. An increase in the prevalence of violence, by one injury per 1,000 residents (or 0.25–0.4 standard deviations), is shown to reduce private employment by 0.2–0.3 percent, employment of women by 0.1–0.9 percent, and female share of employment by 0.1–0.5 percentage points. Since the mean incidence of injuries across Palestine was 1.8 per 1,000 residents in 2017, we may thus extrapolate that private employment was affected by 0.4–0.5 percent, female employment by up to 1.5 percent, and female share by up to one percentage point. An increase in violence from 0 to 10 (close to the jump in violence in the Qalqiliya governorate during 2007–2012) reduces employment by 2–3 percent, female employment by up to 9 percent, and female share by up to 5 percentage points.

A rise in building demolitions by one per ten squared kilometers (just over 2 standard deviations in year 2017), is associated with a 5.6–8.9 percent reduction in private employment, 2.3–6.3 percent reduction in female employment, and up to a small but significant 2.5 percentage point reduction in the female share. Since the mean density of demolitions across Palestine was 0.18 per ten squared kilometers in 2017, we extrapolate that private employment was affected by 1.0–1.6 percent, female employment by 0.4–1.1 percent, and female share by up to 0.5 percentage points.

The remaining rows in table 4 show the coefficients on firms' ownership and incorporation status, and time trend. Firms' industry and governorate are controlled out. The vast majority of these controls are significant, confirming that firm sizes vary systematically across firm types and over time. The reported R-square statistics show that the regressions explain between 12 and 27 percent of variation in firm sizes. Chi-squared (Wald χ^2) statistics confirm the high significance of models.

Across all of the estimated models, our analysis thus shows that a more restrictive degree of security regimes is associated with a reduction in private firms' workforce utilization. This is the case for total employment, for all security-regime indicators. For physical violence and building demolitions, this is also the case for female employment and the share of women among establishments' workforce. Taking all security-regime indicators in tandem, and changing them from a counter-factual value of 0 to their year-2017 average oPt values (1.950 checkpoints/100km^2; 1.783 injuries/1,000pop; 0.177 demolitions/10km^2), these results suggest

that total private employment has been held down by 2.7–19.7 percent. Female private employment has been held down by 3.3–3.9 percent. Under alternative estimates of the reductions in total employment and female employment, female share of employment is estimated to have fallen by 0.7 or increased by 4.9 points.

Could these findings be due to a change in the composition of the economy across survey waves, such as the disappearance or change in operations of some firms? For a panel of 19,720 firms (39,440 observations; 7,800 firms and 15,600 observations usable in regressions), we observe firms' status and operations across two years, 2004 and 2012 (unavailable in other years). For this panel of firms we can measure the effects of security conditions, or the firms' responses to security conditions, untainted by the changing count or composition of the sample of establishments in the two years. We can also include firm-level fixed effects.

Table 5 reports the results of regressions of firms' operating status, taking a value of 1 for actively operating firms, and 0 for firms that are temporarily or permanently closed, in preparation, or engaged in ancillary activities. The left two columns report on regressions restricted to a matched-firms balanced panel (7,800 firms present in both waves, 15,600 observations), while the three columns on the right report on regressions estimated on all data (220,458 firms, 230,876 observations). Ordinary least-squares linear regressions in levels and in first-differences, as well as probit regressions are estimated. Probit regressions are sensitive to the inclusion of categorical control variables whose values can predict outcomes perfectly – a well know problem – so a limited number of controls can be used. This is on top of the lack of information on firms with non-active operations. Regressions in table 5 thus only control for the three indicators for security-regime tightness, firms' organizational arrangement (single unit, head office or branch), and a time indicator for year 2012. Consequently, coefficients in table 5 must be viewed with caution as associations rather than causal effects.

Row 1 in table 5 shows that the checkpoint density is associated insignificantly with firms' propensity to be in active operation. The share of injuries among Palestinian residents is associated negatively with it, significant in three of the five regressions. An increase in injuries by one per 1,000 residents (½ a standard deviation in 2012) is predicted to reduce firms' propensity to be in active operation by 0.12–0.30 or up to 1.1 percentage points. The density of building demolitions is associated strongly negatively with the propensity for active operation. A one-per-10km^2 increase in demolitions (5 standard deviations in 2012) is predicted to reduce firms' propensity to be in active operation by 2.2–7.3 points. Taking all security-regime indicators in tandem, and

changing them from a counter-factual value of 0 to their year-2012 average oPt values (2.016 checkpoints/100km^2; 0.707 injuries/1,000pop; 0.223 demolitions/10km^2), the significant coefficients suggest that firms' propensity to be in active operation fell by 0.7–1.6 percentage points (up to 2.2 points considering even insignificant coefficients).

The effects and significance estimated in tables 4–5 were subjected to various robustness tests. The results are robust to changes in the treatment of model errors and error variances – through regressions with errors clustered at an industry–governorate or firm level, ameliorating concerns over the small number of clusters in the benchmark specifications. Adding governorate-level linear time trends upturns a few coefficients on security-regime indicators, but the bulk of results remain analogous. The qualitative findings also remain valid, but not significant, when firm-level effects are taken out, a highly intrusive approach in a dataset with such a high cross-sectional dimension and limited time dimension.

As another test of the causal links, regime indicators were considered in lagged form (available for the 2007–2017 PECs, but not 2004). In fact, regressions using regime indicators lagged by one year (table A9 in the Appendix) give very similar results as the benchmark regressions – indicating a degree of perseverance in security regimes, but main estimates are smaller and less significant. Regressions of firms' operating status also give results consistent with table 5, but noisier, since they are estimated on a single year 2012 (because lagged controls are unavailable for year 2004). Using distributed lags of security-regime indicators also led to noisy, individually insignificant effects, on account of high perseverance and collinearity of regime tightness over the span of one or two years.

Appendix 3 reports on alternative specifications using univariate indicators of security regimes: a time-varying index constructed from a PCA of all available variables, or a static index from an up-to-date stock of checkpoints. These models confirm that the security-regime restrictiveness is detrimental to firms' employment and operating status. Moreover, these models predict a systematic adverse effect on the female share of firms' employment.

Results across tables 4–5 (supplemented by tables A9 and A12–A14 and other robustness tests), suggest that tighter security regimes are damaging to employment in Palestine for several reasons. One, establishments facing tighter security regimes in their location – if they survive – respond to economic challenges by holding on to fewer workers. Two, some firms do not survive. They are systematically less likely to be in active operation, suggesting that they temporarily or permanently close, or they work on restructuring their operations by engaging in preparatory or

ancillary activities. They enter hibernation in which they engage in peripheral activities, hoping to weather the worst crisis and to reemerge in a brighter future. These latter firms are not properly surveyed in some of the Census waves, and their omission is likely to underestimate the gravity of the effect of the security-regime restrictiveness on economic activity. Marginally-attached workers such as women may be affected as seriously or more seriously by firms' precarious status (Oberholzer 2015).

Could firms that disappeared from the Census at one point or another have simply changed industry or location, and become more successful there? Table 3 illustrates that this is not prevalent. For establishments that we observe as economically active at two points in time, in the 2007–2012 panel, we find that 13,739 (21.9%) changed their main industry, while 48,881 (78.1%) were in the same industry five years on. By contrast, all but 30 remain in the same governorate across the two years, and 48,878 (or 62.6%) operate in the same governorate and engage in the same main economic activity between the two years. (Another 15,460 establishments became inactive. Even among these, all but 6 remain in the same governorate.)

There is no evidence that establishments escape tight security regime in one governorate for another governorate. Firms that change industry or governorate do not appear to expand in size compared to firms that stay behind in the governorates plagued by tight security measures. Alas, firms that disappear from the Census at some point, as well as workers whom they used to hire, appear to have fallen victim to economic hardships.

VI. Conclusions

The Palestinian economy is imperiled. Ever since the 1990s, private sector development in Palestine has been weak, and development programs by the Palestinian Authority and by international donors have not achieved their potential. The Israeli-imposed regime of security measures and property confiscation plays a vital role in these failings, particularly when combined with regulatory weaknesses on the part of the Palestinian Authority and with other structural problems in the Palestinian economy. The ongoing construction of the separation barrier within the West Bank and the systematic demolition or confiscation of Palestinians' property exacerbate the degree of Israel's encroachment on Palestinian livelihoods, and adversely affect the prospect of economic rebirth.

Our study contributes evidence on the performance of the universe of establishments from across Palestinian territories and industries. We use several alternative indicators of the

restrictiveness of security regimes across governorates and years, and link them to firms' economic activity, employment level and female employment. Our main results confirm that Palestinian establishments' operating status and employment are affected by the imposition of the multitude of domestic and cross-border security measures. Mobility restrictions represented by security checkpoints are estimated to have reduced the employment at transportation firms by up to 15 percent, and trade firms' employment by one percent. By contrast, physical violence, proxied here by conflicted-related injuries, has affected private firms' employment by 0.4–0.5 percent, and female employment specifically by up to 1.5 percent. Our third indicator for the tightness of local security regimes, building demolitions by Israeli authorities, affected private employment by 1.0–1.6 percent, and female employment by 0.4–1.1 percent.

Security checkpoints, injuries and house demolitions do not cover the spectrum of security measures inflicted on Palestinian businesses, but they proxy for their distinct multiple dimensions. Because of the omitted types of security measures, the estimated coefficients do not have a strict causal interpretation. However, the coefficients can be viewed in tandem as informing us of the effects of tightening of an array of security conditions. A counterfactual change in the three indicators from 0 to their year-2017 averages reduces total private employment by 2.7–19.7 percent, and female private employment by 3.3–3.9 percent. Firms' propensity to be in active operation is also estimated to have fallen by 0.7–1.6 percentage points, or even by up to 2.2 points. These results suggest that some entrepreneurs have responded to the risks and restrictions on access and transportation by postponing their decisions to open/expand their businesses, or by early closures – to the detriment of themselves, their workers and the Palestinian economy at large.

Whether these estimates reflect a tempo effect – a temporary layoff, hibernation or postponement of opening – or a quantum effect – a permanent shrinkage or disappearance – is unclear. Our limited attempt to perform longitudinal analysis with matched firm data confirms that firms' propensity to be active is negatively associated with the share of injuries among Palestinian residents and the density of demolitions. More work needs to be done to track firms longitudinally, say using pseudopanels. Our robustness tests show that the harm accrues across a number of survey waves (2007–2012, 1997-2017, 2004-2017), and thus persists in the longer term.

World Bank (2017a) estimates that removing restrictions imposed by Israeli forces could raise real GDP by 36 percent in the West Bank and 40 percent in Gaza by 2025. Assuming an employment elasticity with respect to growth of about 1, employment generation would be impacted by a comparable figure. Going by these numbers, even our largest estimate of 19.7

percent appears conservative. Rather than confirming an upward bias due to the feared endogeneity of security measures, this points to an attenuation bias from mismeasurement of policy variables. This reflects our limited coverage of the dimensions of economic restrictions, which are linked to only some variation in firms' employment rates and propensities to remain active.

Our study's key finding is that the three dimensions of the security measures can be clearly traced to the outcomes of individual establishments, in the universe of all establishments across the oPt. Taken together with the political impasse over Palestine's status, with the decision of the current American administration to side with Israeli hardliners in their appropriation of Palestinian land and cultural landmarks, and with violence on both sides of the Israeli-Palestinian border, prospects of jump-starting the private sector and employment are low for the months to come.

Declarations

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Conflicts of interest: The authors have no conflicts of interest.

Availability of data and material: Governorate level data is available in the appendices, and from authors on request. Firm-level data can be requested free of charge from the Palestinian Central bureau of Statistics.

Code availability: Statistical code in Stata software (optimized for Stata 13) is available from authors on request.

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Table 1. Descriptive statistics for main variables, surveys 1994–2017

Types of establishments	1994	1997	2004	2007	2012[i]	2017
Establishments with active operations (%)	91.33	81.97	88.21	87.91[ii]	85.51	95.26
Establishments temp/perm closed (%)	8.52	9.86	5.09	6.61	13.72	3.72
Establishments under preparation (%)		8.17	0.99	0.48	0.77	1.02
Private firms, not NGOs or public (%)	94.18	76.60	90.53	96.30	91.07	91.23
Sole proprietorships (%)	72.55	66.96	82.45	85.61	85.47	88.13
Shareholding companies (%)	1.11	1.99	1.41	1.89	2.02	3.61
Single unit firm, not head office or branch (%)	--	71.63	93.55	94.85	90.59	92.13
Head office, not single unit or branch (%)	--	1.50	2.34	1.88	2.22	0.46
Manufacturing (%)	19.26	16.36	13.47	14.94	12.36	13.08
Wholesale, retail & repair (%)	57.48	42.75	56.22	57.69	51.10	51.24
Establishments with up to 9 employees (%)	96.83	97.41	97.07	96.84	96.58	95.96
Establishment employment (mean #)	--	1.97	2.68	2.75	2.91	2.76
Establishment employment, private estab. (mean #)	2.59	2.57	2.50	2.52	2.71	2.71
Female share of employment (%)	--	9.8	9.9	12.8	13.1	18.5
Female employment share, private establishments (%)	12.4	9.8	9.0	11.7	12.2	16.4
Employment concentr. (mean 0-1 HHI index by ISIC-4 sector)	--	0.10[i]	0.37	0.39	0.34	0.36
Non-agricultural establishments	66,063	92,821	112,820	102,710	169,531	153,922

Source: Authors' analysis of PCBS (1995, 2018a,b), and microdata for 1997–2017 censuses.
Year 1994–2007 samples restricted to non-agricultural establishments, for comparability with the 2012 and 2017 survey waves, which exclude agricultural establishments. (Agricultural establishments account for 6.15, 5.66 and 6.36% of all establishments in waves 1997–2007.) PEC 1994 excludes East Jerusalem.
[i] Evaluated across 12 industry groups (excluding agriculture), since more detailed industry classification is unavailable.
[ii] In 2007, share of establishments under operation/closure/preparation was evaluated in full sample, including agricultural establishments, as per PCBS (2014), since microdata is available only for operating establishments.

Table 2. Security-regime indicators, by year: mean (st.dev.)

	2004	2007	2012	2017
Permanent checkpoints, density / 100 km^2	1.149	1.468	1.589	1.575
	(1.014)	(1.104)	(1.393)	(1.235)
Building demolitions, density / 10 km^2	0.435	0.085	0.212	0.204
	(0.371)	(0.090)	(0.189)	(0.436)
Adult Palestinians injured, share / 1,000pop.	0.892	0.384	1.079	2.698
	(1.018)	(0.302)	(2.220)	(3.962)

Notes: Cross-governorate statistics, unweighted by governorate size.

Table 3. Matching of 2007 and 2012 location and industry in the panel of establishments

	Same industry?		No industry available in 2012		
	Yes	No	Temp/perm closed	Preparation	Ancillary activity
Same governorate?					
Yes	48,878	13,718	1,919	65	13,470
No	3	21	0	0	6
					78,080

Notes: Sample restricted to firms surveyed in both 2007 and 2012.

Table 4. Regressions of firms' employment: matched firms 2004–2012, and all firms 2004–2017

Sample	Log(employment)		Log(female employment+1)		Female share of employment	
	Matched '04–12	All firms '04–17	Matched '04–12	All firms '04–17	Matched '04–12	All firms '04–17
Treatment effects of security regime indicators						
Checkpoints: Effect on private transport	-0.091***	-0.075***	0.031	-0.016	0.032***	0.005
	(0.031)	(0.024)	(0.030)	(0.030)	(0.011)	(0.013)
Checkpoints: Effect on private trade	-0.006	-0.006	0.021	-0.006	0.014	-0.002
	(0.016)	(0.007)	(0.016)	(0.005)	(0.010)	(0.004)
Adult injuries: Effect on all private	-0.002	-0.003**	-0.009**	-0.001	-0.005*	-0.001
	(0.004)	(0.001)	(0.004)	(0.001)	(0.003)	(0.001)
Building demolitions: Effect on all private	-0.089***	-0.056***	-0.063***	-0.023***	-0.025**	-0.005
	(0.022)	(0.019)	(0.017)	(0.008)	(0.010)	(0.006)
Regression coefficients of control variables						
Privately owned	1.146***	1.423***	0.293***	0.446***	0.088**	0.093***
	(0.086)	(0.056)	(0.057)	(0.057)	(0.031)	(0.025)
Publicly owned	1.343***	1.449***	0.813***	0.839***	0.307***	0.303***
	(0.090)	(0.084)	(0.045)	(0.052)	(0.042)	(0.031)
Single unit	-0.213***	-0.330***	-0.069***	-0.149***	-0.013	-0.019***
	(0.030)	(0.027)	(0.022)	(0.021)	(0.009)	(0.004)
Head office	0.461***	0.299***	0.235**	0.134*	0.005	-0.006
	(0.077)	(0.058)	(0.093)	(0.074)	(0.014)	(0.007)
Branch	-0.038	-0.213***	0.032	-0.063**	0.005	0.002
	(0.024)	(0.028)	(0.027)	(0.028)	(0.012)	(0.004)
Sole proprietorship	-0.446***	-0.653***	-0.005	-0.099***	0.038***	0.025***
	(0.035)	(0.031)	(0.009)	(0.025)	(0.006)	(0.005)
Partnership	0.009	-0.221***	-0.008	-0.107***	0.002	-0.012*
	(0.023)	(0.025)	(0.006)	(0.028)	(0.002)	(0.007)
Shareholding firm	0.671***	0.405***	0.288***	0.168***	0.027***	0.017**
	(0.051)	(0.035)	(0.035)	(0.015)	(0.008)	(0.007)
Limited/unlimited liability	0.565***	0.451***	0.142*	0.002	0.042**	0.025*
	(0.044)	(0.043)	(0.069)	(0.056)	(0.016)	(0.012)
Time trend	0.050***	0.023***	-0.015*	0.015***	-0.014**	0.011***
	(0.012)	(0.003)	(0.007)	(0.002)	(0.005)	(0.001)
Security-regime interaction terms	Y*	Y***	Y	Y*	Y**	Y**
12 ind. indicators	Y***	Y***	Y***	Y***	Y***	Y***
15 gov. indicators	Y***	Y***	Y***	Y***	Y***	Y***
Constant	0.717***	0.826***	-0.206***	-0.267***	-0.062**	-0.112***
	(0.123)	(0.091)	(0.054)	(0.032)	(0.029)	(0.016)
R-squared	0.273	0.274	0.221	0.216	0.126	0.118
Wald χ^2	71,076***	32,505***	40,063***	25,445***	12,022***	16,705***
Observations	122,135	342,665	122,291	343,249	122,135	342,664
Establishments	69,545	287,888	69,609	288,378	69,545	287,887

Notes: Sample restricted to non-agricultural firms.
Standard errors in parentheses are corrected for arbitrary heteroskedasticity and autocorrelation at the governorate level.
Significant at * 10%, ** 5%, *** 1% using two-sided tests.

Table 5. Regressions of firms' operating status: only matched firms or all firms, 2004 and 2012

	Matched firms OLS	First-differenced OLS	All firms OLS	All firms Probit	All firms OLS
Checkpoints	0.0023	-0.006	0.034	0.072	0.004
	(0.0014)	(0.005)	(0.022)	(0.064)	(0.004)
Adult injuries	-0.0017*	-0.0012*	-0.011	-0.022	-0.003*
	(0.0009)	-0.0007	(0.010)	(0.024)	(0.001)
Building demolitions	-0.038***	-0.042***	-0.048*	-0.073*	-0.022*
	(0.003)	(0.004)	(0.031)	-0.043	(0.013)
Head office	0.001**	0.003			-0.002
	(0.000)	(0.029)			(0.003)
Branch	0.000*	0.003			-0.002
	(0.000)	(0.014)			(0.002)
Year 2012	0.032**		-0.076**	-0.257***	0.115***
	(0.013)		(0.026)	(0.081)	(0.019)
Ind. indicators	Y***	Y***	Y***	Y***	Y***
Gov. indicators	Y***	Y***	Y***	Y***	Y***
Constant	0.968***	0.044***	0.841***	1.141***	0.886***
	(0.012)	(0.010)	(0.017)	(0.147)	(0.014)
(Pseudo) R-squared	0.072	0.010	0.022	0.018	0.069
Wald χ^2	1,069.5***	74.9***	5,379.7***	3,500.7***	1,091.6***
Observations	15,600	7,800	230,876	230,876	211,211
Establishments	7,800	7,800	220,458	220,458	203,411

Notes: Sample restricted to non-agricultural firms.
Standard errors in parentheses are corrected for arbitrary heteroskedasticity and autocorrelation at the governorate level. Industry and governorate indicators can be included in the first-differenced models because some firms switched their operation and location during 2004–2012.
Significant at * 10%, ** 5%, *** 1% using two-sided tests.

Appendix 1: Border crossings, foreign trade and macroeconomic conditions in Palestine

Palestinian industry and trade have traditionally been oriented strongly toward Israel. In 2014, Israel accounted for 69.6 percent of Palestinian imports and 83.9 percent of exports. Egypt is only Palestine's 9th largest trade partner by volume, with nearly all trade consisting of imports to Gaza. Trade flows between Gaza and the West Bank remain negligible. Exports from Gaza are undermined by the Israeli blockade of Gaza, including the obstruction of exports to the West Bank.

Security protocols and restrictions on mobility within Palestine and across borders – including closures of roads and border crossings – have eroded Palestinian capacity to export (ITC 2015). Palestinian firms compete with unconstrained foreign firms and are at a cost disadvantage. Companies' costs of exporting were higher by a factor of 2.3, and those of importing by a factor of 3.8 compared to Israeli firms. With the shrinking of agricultural and manufacturing shares of the Palestinian GDP, Palestinian exports of goods and services together accounted for only 20 percent of GDP in 2014, a low value compared to other small open economies.

Conditions differ dramatically between Gaza and the West Bank. Gaza Strip has been under full blockade since 2007, which has inhibited its ability to engage in trade and virtually eliminated exports. As the Palestinian economy recovered from the devastation of 2000–2002, exports from the West Bank increased continuously starting in 2003, yet exports from Gaza stalled, and fell to near zero by 2010 after the imposition of a blockade of Gaza. Agricultural produce, susceptible to spoilage if held up at checkpoints, is now sold much closer to its place of origin. This has given rise to internal price differentials across Palestine, for example 50 percent between Nablus and Ramallah, two cities 40 kilometers apart but separated by numerous checkpoints.

Macroeconomic performance of Gaza was worse than the West Bank's for all years 1994–2014. From 1994 to 1999, both economies moved on a positive growth trajectory. Real GDP per capita in the West Bank and Gaza rose from $1,494 and $1,347 in 1994, to $1,948 and $1,372 in 1999, respectively. In 1998, real GDP per capita in the West Bank and Gaza exhibited high growth rates of 11.5 and 8.9 percent, respectively. However, from 2000 to 2003, the start of the Intifada led to a sharp contraction in economic growth in both territories.

Disparity between the West Bank and Gaza grew in years following 2005 – a turning point that saw complete Israeli disengagement from Gaza including military withdrawal and settlement dismantlement. At the same time as the withdrawal offered Palestinians greater mobility within Gaza, Israel imposed a stricter regime for the movement of residents in and out of Gaza. In 2006

Israel launched a military operation and tightened its blockade of Gaza. The Rafah Crossing, previously facilitating the movement to and from Egypt, closed seven months after the disengagement. All these factors, and most notably the blockade of Gaza distorted the daily operations of Gazan residents and businesses, and caused a contraction of the Gazan economy.

The triumph of Hamas in the Palestinian legislative elections in 2006 pushed Israel to intensify its restrictions on trade, and capital and labor mobility in Palestine, and to withhold cargo-clearance revenues. These restrictions slowed down investment and increased net exports gap, leading to a reduction of the Palestinian real GDP by 3.9 percent and per capita GDP by 6.8 percent in 2006. GDP in Gaza contracted by 17.5 percent in 2006, while GDP in West Bank expanded by 4.2 percent. IMF has estimated that investment fell by over 15 percent, resulting in a hollowing out of the productive sectors and ceasing of public investment. In spite of the crisis in Gaza and fall in the Palestinian investment and net exports, consumption in Palestine at large dropped by a mere 3 percent in 2006 owing to a combination of recovery in West Bank, and flows of aid, remittances and borrowing from abroad.

In June 2007, Israel declared Gaza a hostile entity, and imposed a blockade on it. In part due to the blockade and a 22-day Israeli military operation in December 2008–January 2009, Gaza's GDP contracted by 6.5 percent in 2007 and 8.6 percent in 2008. Exports of goods were nearly eliminated in 2008.

At the same time, the situation in West Bank was improving. Israel removed financial sanctions on West Bank in June 2007. This led to a rebound in economic activity in West Bank and growth reached 12.8 percent in 2007 and 11.8 percent in 2008. Thus, the 2007 and 2008 growth rates of 6.6 and 6.1 percent for Palestine at large came from positive growth in West Bank.

In December 2007 the Paris Donors Conference led to a pledge of $7.4 billion in aid to Palestine. The impact was evident in the following year. Growth was driven by a large flow of aid, followed by the lowering of restrictions by Israel. In 2009, GDP in West Bank and Gaza grew by 9.1 and 7.4 percent, respectively. Growth in Gaza was largely due to a rebound from low growth levels of 2006–2008 and the expansion of tunnel trade from Egypt. Although the war and the imposed blockade hampered reconstruction efforts in Gaza, the economy rebounded largely due to the proliferation of informal "tunnel economy" trade.

Economic recovery continued in 2010 with household consumption in Palestine growing by nearly 3.8 percent, net exports by 9.7 percent and GDP by an estimated 8.1 percent. Gaza saw growth of 11.4 and 17.7 percent in 2010 and 2011, showing recovery from very low levels

following the tightening of Israeli blockade in 2006. Most of the growth in Gaza can be attributed to increased cross-border tunnel trade with Egypt, leading to growth in the construction sector of 192.2 percent in 2010 and 132.4 percent in 2011. Gaza's deprivation under the 2006–2009 Israeli blockade and the 2008–2009 winter Gaza War also played a significant role in the following recovery. In West Bank, mobility restrictions were marginally reduced, and West Bank continued seeing positive growth.

In 2013 the economies of Gaza and West Bank slowed down. Palestinian GDP rose by 6.3 percent in 2012, but only by 2.2 percent in 2013. The slowdown resulted from the continuation of restrictions imposed by Israel, decline of agricultural production, elevated imports without corresponding increases in exports or output (World Bank 2013). Moreover, private investment and production in Palestine declined during 2013. Until July 2013 tunnel economy was alleviating the impact of the blockade imposed on Gaza in 2007. Over 150 tunnels operated, bringing in mainly construction materials at much lower cost than those brought from Israel. When Egyptian security forces began demolishing known trade routes, construction activities in Palestine contracted by 28.3 percent between the second and third quarter of 2013, and by 63.9 percent year-on-year in the first quarter of 2014 (B'Tselem 2014).

July–August 2014 saw the eruption of another war in Gaza. This war led to the largest destruction of infrastructure and property and the largest loss of life since the onset of the Israeli occupation. The military conflict and the halt of tunnel economy cost Gaza's economy some $460 million in lost output and infrastructure damages worth $400 million (World Bank 2015). At the same time, West Bank's GDP rose in 2014 by 5.1 percent on bank-loan fueled growth in private consumption and exports. In the first two quarters of 2015, Israeli blockade of Gaza remained largely in place, and reconstruction efforts produced only slow economic recovery (IMF 2015a). During the first quarter of that year, Gaza's GDP rose by 6.7 percent owing to reconstruction efforts, while West Bank's contracted by 2.9 percent owing to a four-month suspension of transfers of cargo-clearance revenues (IMF 2015b).

Appendix 2: Data description

The survey unit of the PEC is the economic establishment. The 2013 System of National Accounts defines the establishment as an enterprise or part of an enterprise in which one group of goods and services is produced, even if secondary activities are conducted in that establishment (PCBS 1997). Data are self-weighted.

Establishments of all sizes, incorporation and purpose are included. For-profit as well as non-profit organizations, organizations with a business address as well as those operating from homes, and organizations operated by private parties, government or international institutions are all included. Even self-employed individuals are included. The sole exception omitted from the survey universe in years 2012 and 2017 is agricultural, forestry, fishing and animal husbandry establishments, while establishments involved in the preservation of meat, seafood and produce are included even in those years.

The PECs report each entity's place of registration (governorate or locality), status as for-profit or non-profit, operating status (operating, temporarily or permanently closed, under preparation or ancillary activity), legal status (sole proprietorship, partnership, shareholding firm, limited liability firm, etc.), organizational arrangement (single unit, head office or branch), main economic activity (13 industry groups; or 4 digit ISIC) and employment (male and female, paid and unpaid). Firms' current capitalization, and owners' demographics – unavailable at the level of individual firms in the publicly available files – can additionally be investigated at the governorate level. Variables in the PEC are not top-coded.

The public versions of the five waves are not entirely harmonized. For one, different variables are made publicly available for the different survey waves (table A2). Two, values that variables take are common between two or three waves, but not always across all five waves. It is thus impossible to use all variables in cross-wave comparisons. Three, samples that are made available to the public are not exactly comparable across the five waves. The 2007 and 2017 waves are restricted to presently operating firms, while other waves contain non-operating units (temporarily or permanently closed, engaged in ancillary activities, or under preparation), or even units that did not complete survey interviews.

The operational status takes five possible values: operation, permanently closed, temporarily closed, under preparation, or auxiliary activity unit. Ownership can be private national, private foreign, national government corporation, foreign government corporation, central government, local government, foreign government, UNRWA, or international body. Economic organization is either a single establishment, head office or branch. For the legal status of establishments, the 1964 Jordanian law is used in the West Bank, while the 1929 Palestinian law is used in Gaza. The possible responses are: sole proprietorship, de facto company, partnership company, shareholding company, limited or not limited company, and others. Principal economic activity is the activity generating the majority of value added for the establishment according to the International

Industrial Classification of all Economic Activities, first revision (ISIC-1), coded at the four digit level. Employment encompasses all permanent and temporary staff aged 10 years and older, including both paid employees and unpaid owners and family members.

Historical backdrop of the Palestinian Establishment Censuses

The 1997 PEC was conducted in September 1997 amid sporadic armed clashes on the ground and high-level efforts to enforce the Oslo II Accord of 1995. Three years later, in September 2000, the Second Intifada broke out. The second PEC was originally planned for 2002, but was postponed to the 2004–2005 winter, after the worst fighting of the Second Intifada had passed and the security situation allowed the mobility of survey staff and respondents. The Intifada ended and the trade regime softened in summer 2005, but some restrictions on movement and trade in the West Bank continued. The number of road checkpoints within the West Bank kept rising. Fieldwork for the 2007 PEC survey was conducted at the originally scheduled time, October and November of 2007, during a period of relative peace but of unrelenting restrictions on the ground. In Gaza, fieldwork followed the imposition of an economic blockade in June 2007.

In 2008 and 2009 hostilities between Hamas and Israel in Gaza intensified again, leading to a further deteriorating humanitarian situation in Gaza. A period of reconstruction followed, interrupted only in March and November 2012 by outbreaks of violence. The 2012 PEC was administered in between of these outbreaks, from September 3 to October 24 (reference date August 31), in a period of brief stability but uncertainty. Since 2012, flashes of violence erupted most notably in 2013 and 2014 in Gaza, but the security regime has been relatively stable in the years leading up to the 2017 Census, administered December 2017 to January 2018 (reference date August 31, 2017).

This overview suggests that the restrictiveness of the security regime varied significantly across Palestinian territories and across years, and that the various firms surveyed in the five PECs were likely affected differently by the restrictions, depending on their location and their operating status at the time. Nevertheless, nothing in the available documentation suggests that survey fieldwork and processing were compromised by security concerns. The differences we uncover in firms' status and performance can be attributed to the circumstances in which firms operated, not to survey design or implementation.

Appendix 3: Principal component analysis (PCA) of mobility restrictions

Mobility restrictions take many forms, and have various implications for businesses, their suppliers and workers, and their clients. As an alternative to using single or multiple indicators for the multiple forms of restrictions on mobility and business operations under the Israeli occupation, we compute a one-dimensional index of the burden of mobility restrictions on residents of each governorate and year.

Data for indicators of security-regime tightness

The density of flying checkpoints during 2005–2008 (source: OCHA oPt), and the density of full-time and part-time checkpoints during 2004–2012 (Roy van der Weide, World Bank) are used. As tables A7–A8 indicate, there was substantial variation in the security presence in West Bank over time, and the trends differed systematically across governorates. Data for Gaza are unavailable, but recognizing the desperate living situation in Gaza due to Israeli blockade and military attacks, we classify all Gaza governorates as facing a harsh security regime and mobility restrictions (M). For 2005–2014, we also account for Palestinian adults and children killed and injured in direct conflict, excluding in the three Gaza wars. For 2005–2008, we additionally use curfew hours, curfew incidents, searches and arrests (OCHA oPt). For 2006–2014, we have information on demolished buildings, and adults and minors made homeless. For 2002 and 2010–2014, we also account for the number of Israeli and Yesha Council settlements, and the count of settlers in each (PCBS Settlements Survey 2014, Settlements reports). Finally, for 2010 we use information on the share of population exposed to violence (PCBS Violence Survey 2011).

Running the PCA

For the PCA of all available factors, the following vectors of security measures were incorporated in all years when they were available: full-time, part-time, and flying checkpoints; building demolitions; curfew hours and curfew incidents (during the Second Intifada); searches and arrests; adults and minors made homeless; adult and child fatalities and injuries; population exposed to violence; Israeli and Yesha Council settlements; and settler density. All indicators are properly standardized: counts of buildings, curfew incidents, checkpoints and settlements are standardized by governorate area, while counts of persons and searches are standardized by population.

The PCA is performed on cross-sectional data in each year, and scores from the retained first principal component are used to construct the regime restrictiveness index in that year. Some

limitations of the index are that the index scores are ordinal and unitless, have different ranges across years, and may be sensitive to individual values of the source vectors. For ease of interpretation and comparability across years, governorates are classified according to the estimated scores as highest, medium or least affected by Israeli security measures.

The mobility-restriction index is obtained from the first component in the PCA of all observable measures of the restrictions. This first component can be expressed as the weighted sum of the individual forms of restrictions (numbering p forms of restriction), where restriction indicators are standardized by the mean and standard deviation across governorates, and where the weights (a_p) are selected to maximize sample variance of the index subject to $\Sigma_p a_p^2 = 1$:

$$w = \sum_p a_p \left.\frac{(x_p - \overline{x_p})}{stdev(x_p)}\right. \quad s.t. \ \sum_p a_p^2 = 1 \tag{1}$$

The principal component method assigns the highest weights to mobility restrictions that vary most across governorates in a year, thus informing on maximum discrimination in business operating conditions between governorates. The available data have several notable limitations that affect the usability and interpretation of the obtained mobility-restriction index. The set of observable restrictions varies across census waves. As a result, we must use relative scores of the restrictions index rather than the absolute scores of the index in cross-year analysis. Several dimensions of mobility restrictions are notably missing for lack of consistent data, including the presence of Israeli armed personnel on the ground, or the typical time delay caused by various checkpoints and truck-reloading border facilities. These additional burdens – in relative terms across Palestinian governorates – are assumed to be sufficiently subsumed by the set of observable burdens, and the mobility-restriction index can still inform consistently of the true degree of relative burden across governorates. Ubiquitous forms of restrictions should not discriminate across governorates well, and should be assigned a low weight.

Tables A10–A11, and figures A22–A24 present detailed results of the PCA. Scores in table A11 were computed using the PCA of the contributing vectors of mobility restrictions in each year. We also present selected additional statistics on the performance of the PCA: relative performance of the first versus the second principal components (figure A22), loadings of individual vectors of mobility restrictions (figure A23), and governorate scores under the first versus the second principal component (figure A24).

The PCA was performed with alternative combinations of variables to select the set attaining the most desirable properties including the share of variance explained by the first component, its

eigenvalue, the Kaiser-Meyer-Olkin score of sampling adequacy, and the Bartlett test of sphericity. Only components with eigenvalues greater than unity are retained in agreement with the Guttman-Kaiser criterion (e.g., Yeomans and Golder 1982). To evaluate internal consistency and reliability of the index of mobility restrictions, Cronbach's α coefficient is used, evaluating to what extent the observable variables measure the same underlying content.

Scores on the first component are transformed to take only three values: least restricted, medium restricted and highest restricted regime. This categorical form makes the resulting index robust to differences in units and distributions across variables used in the analysis. While the security-regime is ordinal (only distinguishing governorates under low, medium and high intensity of security measures), $\hat{\beta}$ in equation 1 is expected to be consistent for the actual change in firms' outcome from a tightening in the local security regime from low to medium, or medium to high level.

Estimating equation 1 using PCA-based index of security-regime tightness

In the following analysis, the PCA-based index of the security-regime tightness is used as the policy variable of interest.[1] Table A11 shows the classification of the security regime in each West Bank governorate: the estimated restriction scores and the classification of governorates as the highest, medium or least affected by the restrictions. We find that Tubas and Jericho consistently rank as having the lowest densities of flying and permanent checkpoints, as well as lowest values of other measures of the security-regime restrictiveness during 2004–2012, while Bethlehem, Hebron, Qalqiliya and Tulkarem score as having the highest densities. Salfit ranks among the least affected governorates in 2015, but among the medium group in 2010 and 2014, and among the most affected group in 2004 and 2006. Hebron, on the other hand, ranked among the least-affected areas in 2004–2006, but started ranking high in 2010. Tulkarem, similarly, ranked as least affected in 2004, 2010 and 2014, but as most affected in 2006 and 2015.

Table A12 presents selected regressions using the PCA-score indicator of security-regime, on panel data for 2007 and 2012. Across all models estimated, we consistently find that a more

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[1] Appendix 3 presents additional information on the PCA, and selected statistics on its performance. Results for the time-constant (year 2015) index are available on request. These results agree qualitatively with the main correlation and regression results in the text, but they appear noisier and less significant, because the time-constant index does not take into account differential time trends in the security-regime restrictiveness across governorates, and effectively simply correlates the time-average of firms' outcomes and the time-constant security-regime restrictiveness index.

restrictive degree of a security regime is associated with a reduction in firms' scale in terms of workforce. This is the case for total employment, female employment, as well as the ratio of women among establishments' workforce. As in the benchmark regressions in the main text, this finding remains valid, and significant here, even when firm-level effects are taken out. The result thus appears highly robust. Intensifying of the security regime in a governorate from the lowest level to the highest level, a change of 2 units, is thus predicted to reduce firms' employment by 1.4–1.6 percent ($-0.007\times2\times100\%$; $-0.008\times2\times100\%$), and reduce female employment by 0.4–1.8 percent ($-0.002\times2\times100\%$; $-0.009\times2\times100\%$). The female share is predicted to fall by 4.2 percentage points ($-0.021\times2\times100$; insignificant in FE regression). These are small but highly significant results.

The analogous analysis performed on 4–5 census waves pooled together – without the ability to match firms across waves, or control out latent time-constant firm heterogeneity – is reported in tables A13–A14. Table A13 relies on census waves following the outbreak of the Intifada (2004–2017; 463,000 observations) for which high-quality, recent information on security regime in governorates is available. Table A14 shows estimates using all available census waves, 1997–2017 (summing up to 556,000 observations), under the assumption that in 1997 Palestinian governorates ranked similarly in terms of the security regime in place as in 2002–2004. Moreover, table A14 reports on the OLS and probit regressions of firms' operating status.

Across all the estimations, and across the different sets of establishments used in each regression, we find evidence that the security-regime restrictiveness is detrimental to firms' status and employment. Intensifying of the security regime in a governorate from the lowest level to the highest level is predicted to reduce firms' employment by 0.2–0.4 percent ($-0.002\times2\times100\%$ in table A13; $-0.001\times2\times100\%$ in table A14), reduce female employment by 1.6–2.0 percent ($-0.010\times2\times100\%$ in table A13; $-0.008\times2\times100\%$ in table A14), effectively reducing the female share by 2.6–2.8 percentage points ($-0.014\times2\times100$ in table A13; $-0.013\times2\times100\%$ in table A14) from the lowly observed values of 10–14 percent. We also find that establishments facing tighter security regimes in their location are systematically less likely to be in active operation, suggesting that they temporarily or permanently close, or they work on restructuring their operations by engaging in preparatory or ancillary activities. Hence, this analysis confirms the qualitative and even quantitative results from tables 4 and 5.

An alternative static index

As yet another parsimonious robustness check, an alternative univariate index of security-regime tightness is derived from the static density of fixed road checkpoints per square kilometer in individual West Bank governorates as of November 2015. This indicator aims to gauge the constraints faced by businesses and workers in the decade since the end of the Intifada. One justification for using the static delineation is empirical: The count of mobility restrictions is not available consistently for all years, and some checkpoints are built (or dis-assembled) mid-year, leaving uncertainty how they should be treated in the analysis, particularly when business owners are not aware of the up-to-date security status. The static measure is robust to year-to-year measurement errors particularly during the Intifada or in the early post-Intifada years. It may also account for unmeasured obstacles in earlier years, such as temporary checkpoints, that led to the setting up of fixed check points in following years. Finally, the majority of checkpoints were erected during or in the aftermath of the Second Intifada, and have remained in place since.

The static indicator classifies governorates as most affected (+1: Hebron, Tulkarm, Qalqiliya, East Jerusalem), medium affected (0: Ramallah and Al-Bireh, Nablus, Bethlehem) or least affected (-1: Jenin, Jericho and Al Aghwar, Salfit, Tubas). The three groups of governorates were chosen in view of natural breaks in the data – 0 to 1, 1 to 1.5, and 2.8 to 3.5 checkpoints per 100km^2 – and because each group represents approximately one third of the Palestinian territory (refer to table A11). Using only internal fixed checkpoints rather than all checkpoints including part-time (or even flying) checkpoints and border crossings, one would get very similar groupings of governorates.

Alternative specifications were considered: total checkpoints (not density) in each governorate and year; density itself rather than the -1/0/1 values; and an index of full-time, part-time and flying checkpoints. These alternative specifications were thought to be more sensitive to issues such as different geography and topography of different governorates, and measurement errors related to the exact count of checkpoints and the temporariness of part-time and flying checkpoints.

Table A1. Pearson pairwise correlation coefficients: normalized security-regime indicators

	Permanent restrictions	Fatalities-adult	Injuries-adult	Fatalities-children	Injuries-children	Settlements	Yesha Council settlements	N
Permanent restrictions								64
Fatalities-adult	-0.243							43
Injuries-adult	0.309*	-0.052						32
Fatalities-children	-0.110	0.655***	-0.046					43

Injuries-children	0.254	-0.282	0.732***	-0.172				32
Settlements	0.145	-0.510***	0.229	-0.300*	0.392**			64
Yesha Council settlements	0.007	-0.522***	0.232	-0.295*	0.414**	0.916***		64
Structures demolished	0.097	0.623***	0.027	0.695***	-0.113	-0.002	0.027	49

Security-regime indicators are normalized by governorate area or population. Significant at * 10%, ** 5%, *** 1% using two-sided tests. Sample for each estimate and significance test is restricted to governorate-year observations for which both indicators are available.

Table A2. Basic descriptive statistics for the included surveys

Census wave	Sample size (completed interview)	In operation	Paid & unpaid workers covered by presently operating firms[i]	Fieldwork [ref. date for employees]	Variables available to researchers
1994[ii]	66,063	60,333 (56,820 in private sector)	147,218 in private sector	Dec 1994	Governorate, operational status, legal status, principal econ. activity (44 groups), male & female employment
1997	98,900	82,165	190,542 (192,205 including non-operating firms)	Dec 10-24, 1997 [Sep 30, 1997]	Governorate, operational status, ownership, profit/nonprofit, economic organization – unit, legal status, principal econ. activity (13 groups), male & female employment
2004	117,153	103,846	257,588	Nov 28, 2004 -Jan 25, 2005 [Nov 28, 2004]	Interview result, governorate, locality, operational status, ownership, economic organization – unit, legal status, principal econ. activity (4-digit), male & female wage/non-wage employment
2007	132,874	109,686[iii]	297,056	Oct 20-Nov 10, 2007 [Sep 30, 2007]	Governorate, ownership, economic organization – unit, legal status, principal econ. activity (13 groups, 2- & 4-digit), male & female employment
2012	169,531	144,969	385,264	Sep 3-Oct 24, 2012 [Aug 31, 2012]	Governorate, operational status, ownership, economic organization – unit, legal status, principal econ. activity (4-digit), male & female employment
2017	166,486	153,922[iii]	424,904	Dec 2017-Jan. 2018 [Aug 31, 2017]	Governorate, ownership, economic organization – unit, legal status, principal econ. activity (4-digit), male & female employment

Source: Authors' analysis of PCBS (1995, 2018a), and microdata for 1997–2017 censuses.

[i] This is likely to double-count workers with multiple jobs (particularly non-wage workers).

[ii] PEC 1994 excludes East Jerusalem. Microdata unavailable to researchers; only summary statistics available.

[iii] The available sample is restricted to interviewed and presently operating firms. Information on other firms is only available from PCBS (2008).

Table A3a. Descriptive statistics for main variables, by West Bank governorate (%, '97 '04 / '07 '12 '17)

Governorate	Active operations	Sole proprietor.	Single unit firms	Manufact.	Trade	Up to 9 employees	Avg. employees (private firms)	Female share (private firms)	Employ. concentr.[i]
Jenin	82.8 | 82.7 85.8[i] | 78.0 | -	62.7 | 86.5 91.6 | 89.8 | 90.4	71.1 | 95.8 97.8 | 93.2 | 94.1	12.4 | 13.3 13.7 | 11.3 | 12.4	48.1 | 59.4 61.1 | 54.4 | 62.1	98.3 | 98.3 97.9 | 98.1 | 98.0	1.6 | 2.1 2.1 | 2.3 | 2.2	10.7 | 11.4 15.0 | 16.7 | 17.0	.04 | .33 .38 | .33 | .34
Tubas	91.4 | 71.8 85.4 | 71.6 | -	76.1 | 90.0 91.7 | 89.1 | 89.2	79.9 | 96.9 97.1 | 95.2 | 93.4	10.7 | 11.3 12.1 | 10.0 | 10.2	53.2 | 62.4 64.3 | 54.3 | 59.8	99.5 | 99.3 99.1 | 98.3 | 97.6	1.3 | 1.7 1.8 | 2.1 | 1.9	8.2 | 10.8 15.8 | 19.3 | 19.1	.14 | .37 .45 | .40 | .44
Talkarm	81.1 | 87.8 85.9 | 79.4 | -	67.8 | 79.1 82.6 | 87.5 | 89.9	72.2 | 96.2 96.4 | 91.9 | 92.1	13.5 | 12.9 14.7 | 12.0 | 12.3	45.4 | 58.0 58.8 | 52.9 | 60.0	97.7 | 97.8 97.5 | 97.2 | 97.4	1.7 | 2.2 2.4 | 2.4 | 2.2	11.6 | 13.9 16.2 | 17.0 | 18.7	.05 | .40 .43 | .38 | .37
Nablus	94.3 | 81.3 84.8 | 81.9 | -	80.8 | 77.3 82.1 | 81.7 | 87.4	83.8 | 90.7 93.7 | 88.9 | 91.5	20.9 | 16.0 18.0 | 16.0 | 16.4	47.3 | 56.4 56.4 | 50.6 | 57.5	98.9 | 97.2 97.1 | 96.4 | 96.3	1.5 | 2.7 2.7 | 2.9 | 2.8	15.6 | 11.1 13.7 | 14.2 | 15.5	.25 | .35 .34 | .32 | .35
Qalqilya	78.4 | 85.7 86.9 | 78.7 | -	61.8 | 82.7 87.8 | 87.5 | 92.0	68.1 | 95.7 97.1 | 94.1 | 95.2	19.3 | 13.7 17.7 | 14.2 | 14.7	39.3 | 56.5 59.1 | 50.0 | 59.3	97.2 | 97.7 97.3 | 97.8 | 97.6	2.1 | 2.2 2.4 | 2.3 | 2.2	9.7 | 11.1 14.4 | 16.5 | 16.2	.08 | .36 .41 | .38 | .38
Salfit	87.5 | 93.1 91.0 | 75.6 | -	69.4 | 87.6 90.7 | 93.1 | 91.1	75.7 | 96.9 96.9 | 92.8 | 95.9	14.4 | 14.3 17.6 | 15.7 | 19.0	47.1 | 55.9 57.1 | 46.7 | 53.6	98.0 | 98.3 97.9 | 97.4 | 96.7	1.7 | 1.9 2.1 | 2.3 | 2.3	11.7 | 18.1 19.0 | 22.6 | 23.3	.08 | .35 .47 | .33 | .45
Ramallah & Al-Bireh	85.1 | 88.7 89.2 | 90.0 | -	64.1 | 70.8 78.1 | 80.3 | 79.5	72.1 | 90.6 91.9 | 88.8 | 88.0	15.7 | 12.8 14.7 | 11.0 | 11.8	39.5 | 50.2 50.3 | 44.7 | 52.5	96.5 | 95.6 94.8 | 94.0 | 93.5	2.6 | 3.5 3.8 | 4.3 | 4.0	13.7 | 15.4 17.6 | 17.8 | 18.9	.11 | .36 .37 | .36 | .31
Jericho & Al Aghwar	86.4 | 85.6 89.8 | 82.4 | -	75.1 | 78.5 84.9 | 79.6 | 86.8	78.0 | 90.1 92.9 | 87.7 | 94.0	22.6 | 9.4 10.6 | 7.4 | 7.8	45.1 | 51.4 55.5 | 46.8 | 55.1	96.9 | 96.5 95.7 | 95.4 | 94.6	2.3 | 2.6 3.1 | 3.4 | 3.1	11.8 | 10.9 15.6 | 19.1 | 18.4	.13 | .41 .47 | .41 | .44
Jerusalem	75.6 | 90.9 92.6 | 94.7 | -	57.2 | 86.1 90.1 | 94.0 | 89.7	57.4 | 93.4 95.9 | 91.5 | 93.5	8.4 | 12.2 19.8 | 10.6 | 18.3	33.3 | 58.0 54.9 | 52.2 | 55.9	97.1 | 95.6 96.6 | 95.8 | 96.2	1.7 | 3.3 2.7 | 3.3 | 2.8	15.8 | 7.5 12.2 | 12.8 | 13.7	.18 | .43 .48 | .37 | .41
Bethlehem	85.7 | 89.9 90.4 | 81.4 | -	69.3 | 80.2 85.2 | 82.8 | 85.1	75.1 | 95.8 96.6 | 92.0 | 93.6	21.5 | 17.3 20.0 | 15.6 | 16.2	39.4 | 52.2 52.4 | 46.4 | 53.9	95.5 | 96.0 95.1 | 95.1 | 94.9	2.6 | 2.9 3.2 | 3.3 | 3.2	16.0 | 14.9 17.7 | 19.2 | 18.3	.11 | .44 .39 | .38 | .39
Hebron	83.1 | 93.0 90.4 | 84.0 | -	69.8 | 80.8 84.7 | 85.0 | 89.8	72.3 | 93.7 95.1 | 91.9 | 92.7	20.2 | 15.1 16.9 | 14.8 | 14.8	43.3 | 57.5 59.2 | 52.1 | 58.9	97.7 | 97.4 96.9 | 97.1 | 96.7	1.9 | 2.5 2.7 | 2.6 | 2.6	7.4 | 8.8 11.4 | 12.2 | 13.0	.05 | .37 .31 | .31 | .32
West Bank	83.0 | 87.2 88.3 | 83.3 | -	66.6 | 80.3 84.8 | 85.2 | 87.6	72.0 | 93.5 95.1 | 91.2 | 92.3	17.6 | 14.2 16.5 | 13.2 | 14.3	42.7 | 56.2 56.8 | 50.5 | 57.4	97.3 | 97.1 96.7 | 96.4 | 96.2	2.6 | 2.5 2.6 | 2.8 | 2.8	11.0 | 10.7 13.6 | 14.7 | 15.6	.11 | .38 .40 | .36 | .37

Source: Authors' analysis of 1997–2017 census microdata.

Year 1997–2007 samples restricted to non-agricultural establishments, for comparability with the 2012 and 2017 survey waves, which exclude agricultural establishments.

'-' not available.

[i] Herfindahl Hirschmann Index/10,000. Evaluated across 12 industry groups (excluding agriculture), since more detailed industry classification is unavailable.

[ii] In 2007, share of establishments under operation was evaluated in full sample, including agricultural establishments, as per PCBS (2014), since microdata is available only for operating establishments.

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Table A3b. Descriptive statistics for main Census variables, by Gaza governorate (%, '97 '04 '07 '12 '17)

Governorate	Active operations	Sole proprietor.	Single unit firms	Manufact.	Trade	Up to 9 employees	Avg. employees (private firms)	Female share (private firms)	Employ. concentr.[i]
North Gaza	80.3 | 90.7	68.7 | 86.8	71.6 | 93.6	14.0 | 13.1	45.6 | 58.1	97.3 | 96.8	1.8 | 2.8	9.8 | 8.6	.08 | .35
	88.0 | 83.1 | -	87.9 | 86.9 | 90.9	94.2 | 91.7 | 93.3	11.0 | 11.1 | 9.9	63.0 | 54.3 | 65.2	97.5 | 96.9 | 97.1	2.5 | 2.7 | 2.4	10.4 | 9.3 | 9.0	.43 | .33 | .35
Gaza	87.5 | 91.7	73.2 | 84.7	77.1 | 92.6	16.8 | 13.1	45.9 | 56.3	96.5 | 96.4	2.3 | 3.1	6.1 | 5.9	.03 | .29
	86.7 | 91.4 | -	84.4 | 85.4 | 85.3	92.6 | 87.5 | 89.5	12.7 | 11.6 | 9.6	59.0 | 52.5 | 63.1	96.0 | 95.8 | 95.2	3.2 | 3.4 | 3.3	8.0 | 7.7 | 8.3	.27 | .27 | .32
Deir Al-Balah	74.9 | 84.5	64.2 | 89.4	66.5 | 94.4	11.7 | 10.5	39.8 | 55.7	98.7 | 97.9	1.3 | 2.4	6.4 | 6.9	.06 | .36
	86.0 | 92.4 | -	91.4 | 83.5 | 91.6	95.6 | 90.5 | 93.1	10.2 | 9.95 | 9.2	60.2 | 49.8 | 63.4	98.0 | 97.7 | 97.1	2.4 | 2.6 | 2.4	10.1 | 8.6 | 9.6	.36 | .32 | .36
Khan Younis	69.3 | 93.3	58.9 | 90.7	61.6 | 94.5	10.3 | 10.8	36.9 | 54.4	98.6 | 98.4	1.4 | 2.2	7.7 | 6.5	.06 | .34
	90.0 | 94.3 | -	90.7 | 88.7 | 92.8	95.1 | 89.1 | 92.9	11.4 | 9.5 | 9.3	57.9 | 51.6 | 63.1	98.2 | 98.1 | 98.0	2.4 | 2.4 | 2.2	8.4 | 7.8 | 8.2	.37 | .32 | .32
Rafah	73.3 | 88.3	64.5 | 87.2	66.3 | 95.4	9.3 | 8.4	41.0 | 57.1	98.9 | 97.8	1.3 | 2.4	6.7 | 5.9	.09 | .37
	90.1 | 90.5 | -	90.0 | 86.0 | 92.5	97.1 | 91.1 | 95.3	8.3 | 8.2 | 8.2	60.5 | 54.3 | 65.9	98.0 | 98.1 | 97.8	2.3 | 2.3 | 2.2	8.0 | 8.1 | 8.1	.43 | .29 | .37
Gaza	79.8 | 90.5	67.7 | 86.9	70.8 | 93.6	13.7 | 11.9	42.8 | 56.2	97.6 | 97.1	2.4 | 2.5	7.0 | 5.6	.07 | .34
	88.3 | 90.5 | -	87.6 | 86.1 | 89.4	94.2 | 89.3 | 92.0	11.4 | 10.5 | 9.4	59.7 | 52.5 | 63.9	97.1 | 96.9 | 96.6	2.4 | 2.6 | 2.5	7.3 | 7.2 | 7.7	.36 | .30 | .34
Total Palestine	83.1 | 88.8	67.0 | 82.4	71.6 | 93.6	16.4 | 13.5	42.8 | 56.2	97.4 | 97.1	2.0 | 2.7	9.8 | 9.9	.10 | .37
	88.3 | 85.5 | -	85.6 | 85.5 | 88.2	94.8 | 90.6 | 92.2	14.9 | 12.4 | 12.7	57.7 | 51.1 | 59.5	96.8 | 96.6 | 96.3	2.8 | 2.9 | 2.8	12.8 | 13.1 | 13.8	.39 | .34 | .36

Source: Authors' analysis of 1997–2017 census microdata.

Year 1997–2007 samples restricted to non-agricultural establishments, for comparability with the 2012 and 2017 survey waves, which exclude agricultural establishments.

'-' not available.

[i] Herfindahl Hirschmann Index/10,000. Evaluated across 12 industry groups (excluding agriculture), since more detailed industry classification is unavailable.

[ii] In 2007, share of establishments under operation was evaluated in full sample, including agricultural establishments, as per PCBS (2014), since microdata is available only for operating establishments.

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Table A4. Main economic-activity of private-sector establishments and workforce (%, '94 '97 '04 '07 '12 '17)

Main economic activity	Share of establishments		Share of workforce	
	West Bank	Gaza	West Bank	Gaza
Mining & quarrying	0.8 | 0.0 | 0.4 0.5 | 0.3 | 0.3	0.0 | 0.0 | 0.01 0.0 | 0.05 | 0.05	2.1 | 0.0 | 1.1 1.1 | 0.7 | 0.7	0.0 | 0.0 | 0.01 0.0 | 0.12 | 0.0
Manufacturing	20.1 | 22.7 | 15.7 18.2 | 14.6 | 13.9	17.7 | 18.2 | 13.0 12.8 | 11.3 | 9.4	34.5 | 36.2 | 25.9 29.7 | 23.5 | 20.7	33.9 | 30.7 | 25.0 19.2 | 17.2 | 13.2
Electricity & water	0.7 | 0.5 | 0.3 0.3 | 0.3 | 0.3	9.0 | 3.0 | 1.2 0.9 | 0.6 | 0.7	0.7 | 0.4 | 1.0 0.6 | 1.0 | 0.9	0.8 | 1.5 | 1.6 2.4 | 1.7 | 1.4
Construction	0.6 | 0.6 | 0.5 0.6 | 0.5 | 0.5	0.8 | 0.9 | 1.3 0.9 | 0.5 | 0.6	1.5 | 1.9 | 1.5 1.8 | 1.3 | 1.8	2.7 | 3.1 | 3.8 2.2 | 2.2 | 1.6
Trade & repairs	58.2 | 55.6 | 62.2 63.0 | 63.5 | 50.3	56.1 | 57.3 | 61.9 67.2 | 66.7 | 53.2	38.3 | 35.3 | 45.0 45.5 | 45.5 | 35.7	43.5 | 38.7 | 45.9 53.0 | 54.9 | 40.0
Hotels & restaurants	3.9 | 3.9 | 5.0 5.1 | 5.4 | 5.4	2.7 | 3.3 | 4.2 4.8 | 4.4 | 4.8	3.1 | 3.3 | 4.7 4.4 | 5.9 | 6.1	2.3 | 2.7 | 4.0 5.4 | 5.7 | 5.8
Transport & communication	0.7 | 0.7 | 1.0 1.1 | 2.0 | 1.1	0.8 | 1.4 | 0.9 1.8 | 4.7 | 1.0	1.2 | 1.7 | 4.1 3.7 | 2.2 | 1.8	1.4 | 2.4 | 2.1 3.3 | 1.5 | 2.0
Finance	0.8 | 0.9 | 0.7 0.8 | 0.7 | 0.9	0.6 | 0.8 | 0.7 0.8 | 0.7 | 0.8	1.7 | 2.5 | 1.8 1.8 | 2.1 | 3.2	1.5 | 1.8 | 1.3 1.6 | 1.2 | 1.6
Real estate & business serv.	3.7 | 3.9 | 3.7 4.4 | 5.6 | 5.5	3.9 | 3.7 | 5.5 5.0 | 5.1 | 4.9	3.1 | 3.6 | 3.8 4.3 | 7.9 | 7.1	3.6 | 3.8 | 5.2 4.8 | 6.6 | 6.4
Education	2.0 | 2.0 | 1.6 -- | 1.8 | 4.1	1.3 | 2.2 | 1.7 -- | 2.0 | 4.7	5.4 | 6.0 | 4.1 -- | 4.9 | 7.8	3.1 | 4.4 | 3.8 -- | 5.2 | 10.4
Health & social work	4.5 | 4.5 | 3.5 1.8 | 3.9 | 4.7	2.7 | 3.7 | 3.3 2.2 | 2.8 | 3.5	5.7 | 5.6 | 3.3 4.0 | 3.4 | 6.0	4.2 | 6.0 | 2.6 5.4 | 2.1 | 6.4
Community & personal serv.	4.2 | 4.8 | 5.4 4.2 | 1.5 | 9.5	4.4 | 5.5 | 6.1 3.7 | 1.3 | 13.6	2.8 | 3.6 | 3.9 3.1 | 1.8 | 5.7	3.0 | 5.0 | 4.8 2.9 | 1.6 | 8.9

Source: Authors' analysis of PCBS (1995), and microdata for 1997–2017 censuses.

Notes: PEC 1994 excludes East Jerusalem. Numbers are the shares of non-agricultural private-sector operating establishments (or shares of non-agricultural private-sector workforce) in the territory that engage in the various economic activities. Numbers add up to 100% in each column.

Table A5a. Distribution of private-sector establishments by main economic activity, West Bank

(%,

'94	'97	'04
'07	'12	'17

Main economic activity	1–4 workers	5–9 workers	10–19 workers	20–49 workers	50–99 workers	100+ workers
Mining & quarrying	52.2 | -- | 36.5 46.5 | 38.7 | 34.7	34.7 | -- | 43.8 40.7 | 48.2 | 46.8	9.1 | -- | 14.9 9.4 | 11.2 | 14.1	3.0 | -- | 4.3 2.7 | 1.2 | 3.4	.7 | -- | .5 .7 | .8 | 1.0	.3 | -- | .0 .0 | .0 | .0
Manufacturing	72.3 | 76.7 | 78.6 78.0 | 77.0 | 77.3	17.5 | 15.1 | 14.2 14.0 | 14.8 | 14.3	7.5 | 5.8 | 5.1 5.5 | 5.5 | 5.5	2.2 | 1.9 | 1.7 2.1 | 2.2 | 2.2	.3 | .3 | .4 .3 | .4 | .5	.2 | .2 | .1 .2 | .2 | .2
Electricity & water	89.8 | 94.4 | 88.3 89.7 | 85.0 | 76.5	7.1 | 3.5 | 4.6 4.4 | 8.1 | 8.2	2.4 | 1.3 | 1.3 2.5 | 2.6 | 6.1	0.4 | 0.4 | 2.6 1.5 | 2.1 | 4.6	.0 | .4 | .7 .5 | .4 | 2.0	.4 | .0 | 2.6 1.5 | 1.7 | 2.6
Construction	64.7 | 60.1 | 66.6 58.3 | 54.3 | 58.2	18.4 | 19.8 | 19.2 21.1 | 25.1 | 20.0	9.7 | 12.4 | 7.3 14.3 | 14.3 | 12.0	4.8 | 5.7 | 5.4 3.7 | 4.7 | 7.6	1.4 | 1.1 | 1.0 1.9 | 1.5 | 1.0	1.0 | 1.1 | .6 .8 | .3 | 1.2
Trade & repairs	95.9 | 96.9 | 96.7 95.9 | 95.6 | 94.7	3.6 | 2.5 | 2.7 3.4 | 3.5 | 4.0	0.5 | 0.5 | 0.5 0.6 | 0.7 | 0.9	0.1 | 0.1 | 0.1 0.1 | 0.2 | 0.3	.0 | .0 | .0 .0 | .0 | .0	.0 | .0 | .0 .0 | .0 | .0
Hotels & restaurants	93.0 | 92.5 | 92.4 92.9 | 89.0 | 86.6	5.6 | 5.5 | 5.8 5.5 | 7.6 | 8.1	1.0 | 1.2 | 1.2 1.3 | 2.2 | 3.5	0.3 | 0.8 | 0.5 0.3 | 1.0 | 1.4	.1 | .1 | .1 .0 | .2 | .3	.0 | .0 | .0 .0 | .1 | .1
Transport & communication	73.4 | 68.9 | 58.1 52.7 | 51.3 | 57.4	14.9 | 18.3 | 25.9 27.1 | 31.6 | 24.6	6.9 | 6.7 | 10.0 12.8 | 10.3 | 11.8	4.4 | 4.2 | 4.2 5.6 | 5.4 | 5.6	.4 | 1.7 | .9 1.0 | 1.1 | .6	.0 | .3 | .9 .9 | .3 | .0
Finance	81.1 | 76.6 | 76.7 73.8 | 70.6 | 57.3	10.2 | 6.8 | 11.5 13.1 | 12.5 | 18.2	2.1 | 6.1 | 6.5 7.6 | 11.3 | 15.5	4.2 | 8.2 | 3.0 3.5 | 3.2 | 5.9	2.1 | 1.6 | 1.4 1.6 | 1.2 | 1.0	.4 | .7 | .9 .4 | 1.1 | 2.0
Real estate & business serv.	90.6 | 90.7 | 90.2 89.8 | 85.7 | 85.2	7.8 | 6.5 | 7.8 8.0 | 10.0 | 7.9	1.3 | 2.2 | 1.5 1.6 | 2.7 | 3.8	0.3 | 0.6 | 0.4 0.4 | 1.0 | 2.7	.0 | .1 | .0 .2 | .3 | .3	.0 | .0 | .0 .0 | .3 | .0
Education	64.8 | 61.9 | 65.6 68.0 | 58.1 | 52.3	19.0 | 22.1 | 21.3 20.8 | 26.9 | 25.0	9.2 | 8.6 | 8.0 7.0 | 8.8 | 13.5	5.9 | 6.2 | 4.1 3.2 | 4.9 | 7.0	.7 | .9 | .9 .8 | .9 | 1.4	.4 | .3 | .2 .3 | .4 | .7
Health & social work	88.8 | 89.7 | 94.3 95.3 | 94.5 | 88.8	6.6 | 5.2 | 3.0 2.9 | 3.6 | 5.7	2.7 | 2.7 | 1.75 1.4 | 1.2 | 3.5	1.2 | 1.7 | 0.7 0.3 | 0.4 | 1.3	.5 | .4 | .2 .1 | .2 | .2	.4 | .3 | .1 .0 | .1 | .5
Community & personal serv.	94.6 | 92.3 | 95.4 90.5 | 82.4 | 93.8	4.0 | 5.2 | 3.7 6.5 | 12.7 | 4.1	1.1 | 2.1 | 0.7 2.0 | 3.7 | 1.2	0.1 | 0.3 | 0.2 0.7 | 1.0 | 0.8	.1 | .0 | .0 .1 | .2 | .1	.1 | .0 | .0 .1 | .0 | .0

Source: Authors' analysis of PCBS (1995), and microdata for 1997–2017 censuses.

Notes: PEC 1994 excludes East Jerusalem. Numbers are the shares of private-sector operating establishments in each economic activity with various sizes. Numbers add up to 100% in each row.

Table A5b. distribution of private-sector establishments by main economic activity, Gaza (%, '94 '97 '04 '07 '12 '17)

Main economic activity	1–4 workers	5–9 workers	10–19 workers	20–49 workers	50–99 workers	100+ workers
Mining & quarrying	-- | -- | 100.0 100.0 | 47.6 | 52.2	-- | -- | 0.0 0.0 | 33.3 | 34.8	-- | -- | 0.0 0.0 | 19.1 | 13.0	-- | -- | 0.0 0.0 | 0.0 | 0.0	-- | -- | .0 .0 | .0 | .0	-- | -- | .0 .0 | .0 | .0
Manufacturing	72.0 | 75.3 | 74.3 81.8 | 76.9 | 78.4	19.0 | 15.9 | 16.8 12.5 | 16.9 | 13.9	6.5 | 6.2 | 5.9 4.4 | 4.7 | 5.0	2.1 | 2.3 | 2.3 0.9 | 1.3 | 2.4	.3 | .2 | .4 .1 | .1 | .3	.1 | .0 | .2 .1 | .1 | .1
Electricity & water	99.8 | 98.9 | 94.7 92.1 | 89.0 | 79.2	0.1 | 0.9 | 3.2 4.7 | 8.0 | 14.1	0.1 | 0.0 | 0.3 0.4 | 0.4 | 1.6	0.0 | 0.2 | 0.3 0.0 | 0.4 | 1.6	.0 | .0 | .9 1.2 | .8 | .0	.0 | .0 | .6 1.6 | 1.3 | 3.6
Construction	62.9 | 55.5 | 53.8 57.7 | 47.3 | 51.5	19.2 | 21.3 | 28.0 24.7 | 22.4 | 25.2	7.3 | 13.4 | 11.6 13.4 | 16.9 | 14.4	7.3 | 7.9 | 5.4 3.8 | 10.0 | 6.7	2.6 | 1.5 | .8 .4 | .5 | 1.9	.7 | .5 | .5 .0 | 3.0 | .4
Trade & repairs	95.6 | 97.0 | 96.5 95.4 | 95.0 | 95.0	3.7 | 2.5 | 3.0 3.9 | 4.3 | 3.9	0.6 | 0.5 | 0.5 0.6 | 0.6 | 0.8	0.1 | 0.1 | 0.1 0.1 | 0.2 | 0.2	.0 | .0 | .0 .0 | .0 | .0	.0 | .0 | .0 .0 | .0 | .0
Hotels & restaurants	95.6 | 95.3 | 92.4 89.1 | 85.1 | 85.1	3.2 | 3.1 | 6.1 8.6 | 11.9 | 10.6	0.9 | 1.0 | 1.3 1.6 | 1.7 | 2.9	0.2 | 0.6 | 0.2 0.6 | 1.1 | 1.1	.0 | .0 | .0 .1 | .1 | .3	.0 | .0 | .0 .0 | .1 | .0
Transport & communication	76.8 | 86.6 | 72.1 80.8 | 62.7 | 50.1	14.6 | 7.7 | 16.0 11.6 | 18.3 | 22.0	6.6 | 3.4 | 8.6 5.4 | 14.4 | 20.1	1.3 | 0.7 | 2.2 1.2 | 4.6 | 7.2	.7 | 1.3 | .7 .6 | .0 | .5	.0 | .3 | .4 .4 | .0 | .0
Finance	80.5 | 78.3 | 82.4 79.6 | 82.9 | 73.6	7.1 | 4.6 | 7.8 8.9 | 8.0 | 12.1	7.1 | 10.3 | 5.9 8.0 | 5.7 | 9.4	4.4 | 5.7 | 2.9 2.7 | 2.7 | 4.4	.0 | 1.1 | .5 .4 | .3 | .2	.9 | .0 | .5 .4 | .3 | .2
Real estate & business serv.	93.6 | 91.3 | 94.4 91.3 | 84.8 | 86.3	5.2 | 6.1 | 4.3 6.6 | 11.1 | 8.5	0.7 | 2.3 | 0.9 1.8 | 2.6 | 3.4	0.4 | 0.3 | 0.2 0.4 | 1.3 | 1.7	.1 | .0 | .1 .0 | .1 | .0	.0 | .1 | .1 .0 | .1 | .0
Education	66.4 | 61.9 | 57.3 -- | 46.8 | 53.2	25.0 | 28.8 | 34.4 -- | 39.4 | 33.0	5.7 | 7.4 | 5.7 -- | 10.0 | 8.8	1.2 | 1.7 | 2.3 -- | 3.1 | 4.0	1.6 | .2 | .2 -- | .6 | .6	.0 | .0 | .2 -- | .1 | .4
Health & social work	88.1 | 84.6 | 95.9 53.2 | 95.9 | 80.2	5.5 | 7.7 | 2.9 35.0 | 2.9 | 9.5	4.0 | 4.7 | 0.8 7.9 | 1.0 | 5.2	1.9 | 2.0 | 0.3 3.0 | 0.3 | 3.6	.2 | .5 | .0 .7 | .0 | .9	.4 | .5 | .0 .2 | .0 | .6
Community & personal serv.	95.9 | 91.2 | 95.0 95.3 | 83.6 | 93.1	2.9 | 5.7 | 4.1 3.0 | 11.4 | 4.1	1.1 | 2.5 | 0.6 1.5 | 3.5 | 2.0	0.1 | 0.5 | 0.1 0.2 | 1.3 | 0.8	.0 | .2 | .1 .0 | .2 | .1	.0 | .0 | .0 .0 | .0 | .0

Source: Authors' analysis of PCBS (1995), and microdata for 1997–2017 censuses.
Notes: Numbers are the shares of private-sector operating establishments in each economic activity with various sizes. Numbers add up to 100% in each row.

Table A6. Establishment Census 1994: Surveyed establishments and workers by governorate

Governorate	Employees	All workers	Establishments	Avg. size (employees/estab.)	Localities
Jenin	3,888	11,340	5,348	2.1	78
Talkarm	4,429	10,020	4,384	2.3	71
Nablus	13,163	24,723	8,556	2.9	59
Qalqiliya	1,694	3,622	1,635	2.2	23
Ramallah	10,796	17,410	5,205	3.3	96
Jerusalem[i]	--	--	--	--	15
Jericho	797	1,460	533	2.7	16
Bethlehem	6,618	11,472	3,099	3.7	70
Hebron	9,310	22,251	8,648	2.6	128
Gaza	19,838	44,920	19,412	2.3	28

Source: Authors' analysis of PCBS (1995).
[i] Statistics for Jerusalem excluded from the PCBS (1995) report.

Table A7. Flying checkpoints, and full-time and part-time checkpoints, West Bank governorates, 2004–2015 available years (count)

	Flying checkpoints				Full-time & part-time checkpoints										
	2005	2006	2007	2008	Jan-04	Jan-05	Jan-06	Jan-07	Jan-08	Jan-09	Jan-10	Jan-11	Jan-12	Nov-15	Nov-17
Jenin	54	878	1,068	328	2	1	2	2	2	3	3	3	3	6	6
Tubas	109	286	108	143	1	1	2	1	1	1	1	1	1	1	1
Tulkarem	389	365	430	252	2	3	2	3	4	5	5	5	5	7	8
Nablus	220	653	259	171	7	7	7	8	8	8	8	10	10	9	9
Qalqiliya	371	1,375	1,593	637	--	--	2	2	6	7	9	7	6	5	5
Salfit	76	336	280	256	2	2	2	2	2	2	3	3	3	2	2
Ramallah & Al Bir	83	269	97	56	6	6	6	6	6	6	8	12	12	11	13
Jericho, Ariha, Al Aghwar	34	35	59	11	1	2	3	3	3	4	4	3	3	5	5
Bethlehem	283	1,180	737	404	8	7	10	11	11	11	12	10	8	10	10
Hebron / Al Khalil	564	1,485	894	759	31	32	35	36	37	37	41	39	39	28	33
Jerusalem / Al Quds	82	228	333	61	--	--	--	--	--	--	--	1	1	1	2
East Jerusalem (J1, when excluded from Jerusalem)					--	1	1	1	1	2	2	2	2	2	2
J2 (when excluded from Al Quds & J1)					4	3	8	10	10	13	15	12	12	9	9
Total	2,265	7,090	5,858	3,078	64	65	80	85	91	99	111	108	105	96	105

Source: Flying checkpoints from OCHA oPt; full-time and part-time checkpoints from Roy van der Weide, World Bank. '--' unavailable. 'Total' treats unavailable as 0.

Table A8. Fixed checkpoints by West Bank governorate, November 2015 (count)

Governorate	Area (km²)	Internal checkpoints	Last checkpoint before Israel	Other border checkpoints	Total fixed checkpoints	Density of fixed checkpts./100km²
Tubas (H)	402	1	0	0	1	0.2
Jericho & Al Aghwar (H)	593	3	1	1	5	0.8
Salfit (H)	204	2	0	0	2	1.0
Jenin (H)	583	1	5	0	6	1.0
Ramallah & Al-Bireh	855	6	5	0	11	1.3
Nablus	605	9	0	0	9	1.5
Bethlehem	659	5	5	0	10	1.5
Hebron (L)	997	7	4	17[a]	28	2.8
Tulkarem (L)	246	1	6	0	7	2.8
Qalqiliya (L)	166	2	3	0	5	3.0
East Jerusalem (L)	345	2	10	0	12	3.5
Total	5,655	39	39	18	96	1.7

Source: Authors' analysis of B'Tselem data. For a static index of mobility restrictions, governorates ordered by density of fixed checkpoints, and grouped into highest (H), medium, and least (L) affected by mobility restrictions.

Table A9. Regressions of firms' employment with lagged policy indicators: matched firms 2007–2012, and all firms 2007–2017

	Log(employment)		Log(female employment+1)		Female share of employment	
Sample	Matched '07–12	All firms '07–17	Matched '07–12	All firms '07–17	Matched '07–12	All firms '07–17
Treatment effects of security regime indicators						
Lagged checkpoints: Effect on private transport	-.087**	-.078**	0.008	-0.010	0.011	0.005
	0.038	0.039	0.027	0.032	0.010	0.014
Lagged checkpoints: Effect on private trade	0.002	-.021***	-0.004	-.007*	-0.008***	-0.005
	0.016	0.007	0.004	0.004	0.003	0.004
Lagged adult injuries: Effect on all private	0.006	-.019***	-0.001	-0.003	0.004	0.009**
	0.016	0.005	0.006	0.004	0.005	0.004
Lagged demolitions: Effect on all private	-.038	-0.009	-0.009*	-.007***	0.006	-0.002
	0.028	0.008	0.006	0.003	0.005	0.001
Regression coefficients of control variables						
Privately owned	0.199	1.451***	-0.056	0.418***	0.105	0.085**
	(0.133)	(0.092)	(0.158)	(0.068)	(0.127)	(0.036)
Publicly owned	0.374***	1.467***	0.472***	0.893***	0.336**	0.304***
	(0.073)	(0.091)	(0.127)	(0.049)	(0.126)	(0.034)
Single unit	0.730***	-0.386***	0.265*	-0.199***	-0.039	-0.023***
	(0.086)	(0.028)	(0.129)	(0.025)	(0.122)	(0.005)
Head office	1.397***	0.240***	0.566***	0.078	-0.019	-0.006
	(0.105)	(0.060)	(0.132)	(0.071)	(0.119)	(0.009)
Company branch	0.898***	-0.270***	0.358**	-0.120***	-0.022	0.001
	(0.081)	(0.031)	(0.133)	(0.031)	(0.121)	(0.005)
Sole proprietorship	-0.429***	-0.646***	0.005	-0.091***	0.043***	0.031***
	(0.034)	(0.034)	(0.008)	(0.028)	(0.007)	(0.006)
Partnership	0.059**	-0.186***	0.014**	-0.085**	0.010***	-0.008
	(0.020)	(0.031)	(0.006)	(0.028)	(0.002)	(0.006)
Shareholding firm	0.714***	0.436***	0.305***	0.192***	0.032***	0.017**
	(0.041)	(0.036)	(0.037)	(0.013)	(0.009)	(0.007)
Limited/unlimited liability		-0.571		4.578***		2.210***
		(2.522)		(0.815)		(0.507)
Time trend	0.019	0.026*	-0.032***	-0.016***	-0.015***	-0.004
	(0.019)	(0.013)	(0.003)	(0.003)	(0.003)	(0.003)
Security-regime interaction terms	Y***	Y***	Y***	Y***	Y***	Y***
12 ind. indicators	Y***	Y***	Y***	Y***	Y***	Y***
15 gov. indicators	Y***	Y***	Y***	Y***	Y***	Y***
Constant	0.784***	0.817***	-0.140*	-0.119*	-0.049	-0.067*
	(0.142)	(0.111)	(0.076)	(0.056)	(0.038)	(0.034)
R-squared	0.273	0.264	0.221	0.205	0.120	0.101
Observations	103,334	251,852	103,334	251,851	103,334	251,851
Establishments	59,393	207,062	59,393	207,061	59,393	207,061

Table A10. Factor loadings of all variables

Variable	Description	Avg. (Min–Max)	2002–2004	2005–2006	2009–2010	2013–2014
			Factor loadings			
Fixed checkpoints	Density of fulltime & part-time chkpts in Jan 2004 used for 1997 & 2004 PCA; in 2005-2006 used for 2007 PCA; in 2009-2010 used for 2012 PCA; in 2015 used for 2017 PCA (chkpts/km^2)	0.016 (0.002–0.054)	-0.060	0.089 0.046	0.090 0.103	0.248
Flying checkpoints	Density of chkpts in Jan 2005 & 2006 used for 2007 PCA (chkpts/km^2)	1.152 (0.057–8.283)		0.321 0.244		
Israeli settlements	Settlements in 2002 used for 1997 & 2004 PCA; in 2010 used for 2012 PCA; in 2013-2014 used for 2017 PCA (count/km^2)	0.005 (0.000–0.046)	0.462		0.140	0.276 0.286
Yesha Council settlements	Settlements in 2002 used for 1997 & 2004 PCA; in 2010 used for 2012 PCA; in 2013-2014 used for 2017 PCA (count/km^2)	0.025 (0.009–0.059)	0.549		0.123	0.134 0.133
Israeli settlers	Settlers in 2002 used for 1997 & 2004 PCA; in 2010 used for 2012 PCA; in 2013-2014 used for 2017 PCA (count/km^2)	21.400 (0.8–68.1)	0.693		0.227	0.325 0.326
Building demolitions	Demolitions in 2006 used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/km^2)	0.040 (0.001–0.145)		-0.152	-0.052 -0.244	0.059 0.148
Adults made homeless	2006 figures used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/pop)	0.001 (0.000–0.003)		-0.098	-0.358 -0.316	-0.198 -0.241
Minors made homeless	2006 figures used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/pop)	0.000 (0.000–0.001)		-0.055	-0.329 -0.266	-0.209 -0.238
Curfew hours	2005-2006 figures used for 2007 PCA (hours)	90.700 (0–473)		0.283 0.122		
Curfew incidents	2005-2006 figures used for 2007 PCA (count/km^2)	0.017 (0–0.085)		0.352 0.229		
Searches	2005-2006 figures used for 2007 PCA (count/pop)	0.001 (0.000–0.006)		0.144 0.202		
Arrests	2005-2006 figures used for 2007 PCA (count/pop)	0.002 (0.001–0.003)		0.322 0.340		
Adult fatalities	2005-2006 figures used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/pop)	4×10^{-6} ($0–14\times10^{-6}$)		0.296 0.037	0.133 0.062	0.168 0.031
Child fatalities	2005-2006 figures used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/pop)	1×10^{-6} ($0–9\times10^{-6}$)		0.313 0.020	0.231 0.152	0.088 0.248
Adult injuries	2005-2006 figures used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/pop)	3×10^{-4} ($0–11\times10^{-4}$)		0.196 -0.042	0.309 0.257	0.180 0.321
Child injuries	2005-2006 figures used for 2007 PCA; 2009-2010 used for 2012 PCA; 2013-2014 used for 2017 PCA (count/pop)	70×10^{-6} ($0–332\times10^{-6}$)		0.034 0.105	0.318 0.243	0.198 0.314
Pop. exposed to violence	2010 figures used for 2012 PCA (count/pop)	46.400 (23.3–60.0)			-0.078	

Source: Authors' analysis of data from OCHA oPt, B'Tselem, Roy van der Weide (World Bank), PCBS.

Table A11. Principal component analysis scores, and governorates facing the lowest vs. highest restrictiveness of mobility (L/H)

Governorate	2002–2004[a]	2005–2006[b]	2009–2010[c]	2013–2015[d]
Tubas	0.084 L	0.369	0.000 L	0.006 L
Jericho & Al Aghwar	0.295	0.083 L	0.438	0.000 L
Jenin	0.021 L	0.485	0.359 L	0.185 L
Hebron & Al Khalil	0.040 L	0.339 L	0.619 H	0.395
Tulkarem	0.000 L	1.000 H	0.401 L	0.202 L
Nablus	0.084	0.727 H	0.515	0.317
Bethlehem	0.276	0.521	0.568	0.516 H
Ramallah & Al-Bireh	0.363	0.428	1.000 H	0.582 H
Salfit	0.845 H	0.609 H	0.583	0.474
Qalqiliya	0.551 H	0.896 H	0.658 H	0.537 H
East Jerusalem	1.000 H	0.000 L	0.760 H	1.000 H
Mean	0.324	0.496	0.536	0.383

Source: Author's analysis of B'Tselem, OCHA oPt, PCBS and Roy van der Weide (World Bank) data. Scores normalized to be in unit interval. Governorates ordered by the sum of the four scores. Governorates classified as facing the Least or Most restrictions in view of clusters and natural breaks in scores, in view of score ranges in other years, and to have 3–4 governorates in each group.

[a] Observed variables include: Israeli and Yesha Council settlements, and settler density 2002; and full-time and part-time checkpoints 2004.

[b] Observed variables include: building demolitions, adults and minors made homeless 2006; curfew hours and curfew incidents 2005–2006; flying checkpoints 2005–2006; searches and arrests 2005-2006; adult & child fatalities & injuries 2005–2006; and full-time and part-time checkpoints 2005–2006.

[c] Observed variables include: building demolitions, adults and minors made homeless 2009–2010; Israeli and Yesha Council settlements, and settler density 2010; population exposed to violence 2010; adult & child fatalities & injuries 2009–2010; and full-time and part-time checkpoints 2009–2010.

[d] Observed variables include: building demolitions, adults and minors made homeless 2013–2014; Israeli and Yesha Council settlements, and settler density 2013–2014; adult & child fatalities & injuries 2013–2014; and full-time and part-time checkpoints 2015.

Table A12. Regressions of firms' employment: longitudinal data of matched firms in 2007 & 2012

	Log(employment)		Log(female employment+1)		Female share of employment	
	OLS	FE	OLS	FE	OLS	FE
Restrictiveness of security regime	-0.007***	-0.008***	-0.009***	-0.002*	-0.002**	-0.002**
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Year (2012=1)	0.020***	0.027***	-0.040***	0.004***	-0.021***	0.001
	(0.003)	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)
Privately owned	0.119	0.021	-0.149	-0.185	0.088	0.025
	(0.151)	(0.292)	(0.152)	(0.142)	(0.135)	(0.055)
Publicly owned	0.419***	-0.103	0.470***	-0.166	0.309**	0.057
	(0.152)	(0.293)	(0.152)	(0.145)	(0.135)	(0.056)
Single unit	0.779***	0.862***	0.289*	0.346**	-0.043	0.001
	(0.147)	(0.278)	(0.151)	(0.135)	(0.135)	(0.052)
Head office	1.426***	1.009***	0.550***	0.414***	-0.030	0.007
	(0.148)	(0.279)	(0.152)	(0.135)	(0.135)	(0.052)
Company branch	0.940***	0.823***	0.376**	0.346**	-0.025	0.003
	(0.147)	(0.279)	(0.152)	(0.135)	(0.135)	(0.052)
Sole proprietorship	-0.446***	-0.148***	0.006	-0.016***	0.040***	-0.001
	(0.010)	(0.009)	(0.006)	(0.004)	(0.003)	(0.002)
Partnership	0.049***	0.010	0.014*	-0.005	0.012***	-0.002
	(0.013)	(0.012)	(0.008)	(0.006)	(0.004)	(0.003)
Shareholding firm	0.675***	0.057***	0.278***	0.042***	0.032***	0.007
	(0.024)	(0.020)	(0.017)	(0.012)	(0.004)	(0.004)
Limited/unlimited liability	0.457***	0.068	0.031	-0.002	0.023**	0.002
	(0.054)	(0.055)	(0.027)	(0.028)	(0.009)	(0.009)
12 ind. indicators	Y***	Y***	Y***	Y***	Y***	Y***
15 gov. indicators	Y***	Y***	Y***	Y***	Y***	Y***
Establish. fixed effects		Y		Y		Y
Constant	0.853***	-0.720*	-0.155***	-0.388	-0.036	0.042
	(0.056)	(0.405)	(0.028)	(0.283)	(0.024)	(0.108)
Observations [estabs.]	139,823 [78,080]		139,823 [78,080]		139,823 [78,080]	
Within R-squared	0.270	0.020	0.256	0.006	0.147	0.001

Notes: Sample restricted to non-agricultural firms surveyed in both 2007 and 2012.
Standard errors in parentheses are corrected for arbitrary heteroskedasticity and autocorrelation at the firm level.
Significant at * 10%, ** 5%, *** 1% using two-sided tests.

Table A13. OLS regressions of firms' employment: pooled cross-sections of 2004–2017 surveys

	Log(employment)	Log(female employment+1)	Female share of employ.
Restrictiveness of security regime	-0.002	-0.010***	-0.014***
	(0.002)	(0.001)	(0.001)
Year (2004=1, 2017=4)	0.018***	0.013***	0.010***
	(0.001)	(0.001)	(0.000)
Privately owned	0.105	-0.048	0.107
	(0.098)	(0.091)	(0.082)
Publicly owned	0.358***	0.449***	0.291***
	(0.098)	(0.091)	(0.082)
Single unit	0.854***	0.230**	-0.041
	(0.097)	(0.090)	(0.082)
Head office	1.475***	0.471***	-0.027
	(0.098)	(0.091)	(0.082)
Company branch	0.972***	0.296***	-0.025
	(0.097)	(0.090)	(0.082)
Sole proprietorship	-0.515***	-0.042***	0.023***
	(0.007)	(0.005)	(0.002)
Partnership	-0.035***	-0.050***	-0.015***
	(0.008)	(0.005)	(0.002)
Shareholding firm	0.538***	0.226***	0.016***
	(0.012)	(0.008)	(0.003)
Limited/unlimited liability	0.545***	0.068***	0.028***
	(0.028)	(0.017)	(0.005)
12 industry indicators	Y***	Y***	Y***
15 gov. indicators	Y***	Y***	Y***
Constant	0.829***	-0.213***	0.045
	(0.028)	(0.015)	(93.020)
Observations	462,805	463,389	462,804
R-squared	0.278	0.246	0.137

Notes: 2004–2017 establishment-level data are used because they can be matched to government-level security regime (unavailable for year 1997). Sample restricted to non-agricultural firms.
Standard errors in parentheses are corrected for arbitrary heteroskedasticity and autocorrelation at the firm level.
Significant at * 10%, ** 5%, *** 1% using two-sided tests.

Table A14. OLS regressions of firms' employment: pooled cross-sections of 1997–2017 surveys

	Log(employment)	Log(female employment+1)	Female share of employment	Operating status (OLS)	Operating status (Probit)
Restrictiveness of security regime	-0.001	-0.008***	-0.013***	-0.001***	-0.174***
	(0.002)	(0.001)	(0.001)	(0.000)	(0.023)
Year (1997=0, 2017=4)	0.025***	0.012***	0.010***	0.001***	--
	(0.001)	(0.000)	(0.000)	(0.000)	
Privately owned	0.101	-0.050	0.111	0.195***	0.988*
	(0.098)	(0.080)	(0.082)	(0.040)	(0.590)
Publicly owned	0.361***	0.423***	0.283***	0.199***	--
	(0.098)	(0.080)	(0.082)	(0.040)	
Single unit	0.851***	0.237***	-0.035	0.056	0.956
	(0.097)	(0.079)	(0.081)	(0.037)	(0.618)
Head office	1.473***	0.477***	-0.020	0.056	1.149*
	(0.098)	(0.080)	(0.081)	(0.037)	(0.629)
Company branch	0.983***	0.313***	-0.016	0.057	2.260***
	(0.097)	(0.080)	(0.081)	(0.037)	(0.674)
Sole proprietorship	-0.511***	-0.067***	0.011***	0.004***	0.619***
	(0.006)	(0.004)	(0.002)	(0.001)	(0.052)
Partnership	-0.023***	-0.072***	-0.026***	0.004***	0.543***
	(0.007)	(0.005)	(0.002)	(0.001)	(0.154)
Shareholding firm	0.540***	0.195***	0.006**	0.003***	0.622***
	(0.011)	(0.008)	(0.002)	(0.001)	(0.138)
Limited/unlimited liability	0.559***	0.044***	0.013***	0.008***	--
	(0.027)	(0.017)	(0.005)	(0.001)	
12 ind. indicators	Y***	Y***	Y***	Y***	Y***
15 gov. indicators	Y***	Y***	Y***	Y***	Y***
Constant	0.043	-0.010***	-0.053***	0.253***	-0.743***
	(0.058)	(0.002)	(0.018)	(0.003)	(0.024)
Observations	533,780	556,209	533,779	414,013	92,819
R-squared	0.281	0.246	0.138	0.723	0.683

Notes: Sample restricted to non-agricultural firms.
Standard errors in parentheses are corrected for arbitrary heteroskedasticity and autocorrelation at the firm level.
Significant at * 10%, ** 5%, *** 1% using two-sided tests.

Table A15. Total Fatalities between 29 September 2000 – 30 April 2020

	Gaza Strip	West Bank	Israel	TOTAL
Palestinians killed by Israeli security forces	7476	2236	118	9830
Palestinians killed by Israeli civilians	4	68	10	82
Israeli civilians killed by Palestinians	39	258	527	824
Israeli security force personnel killed by Palestinians	147	173	118	438
Foreign citizens killed by Palestinians	11	8	42	61
Foreign citizens killed by Israeli security forces	9	8	1	18
Palestinians killed by Palestinians	567	142	1	710
Palestinians killed by unknown Israeli party	0	5	2	7
OF WHICH: Data on minors and women (included in previous table)				
Palestinian minors killed by Israeli security forces	1673	424	10	2107
Palestinian women killed by Israeli security forces	527	71	1	599
Israeli minors killed by Palestinians	4	46	87	137
Israeli women killed by Palestinians	7	58	186	251
Palestinians killed by Palestinians for suspected collaboration with Israel	25	109	0	134
OF WHICH: Data on participation in the hostilities and targeted killings (included in first table)				
Palestinians who did not take part in hostilities and killed by Israeli security forces (not the objects of targeted killings)	3901	839	9	4749
Palestinian killed by Israeli security forces, Not known if involved in fighting	357	404	7	768
Palestinians who took part in the hostilities and were killed by Israeli security forces	2818	475	84	3377
Palestinians who were the object of a targeted killing	207	82	0	289
Palestinians killed during the course of a targeted killing	433	107	0	540
Palestinian police officers who were killed inside police stations	248	0	0	248

Source: B'Tselem data combined from data for three periods (29 September 2000 - 26 December 2008; 27 December 2008 - 18 January 2009; 19 January 2009 - 30 April 2020).

Figure A1. Employment-size distribution of Palestinian operating, private-sector, non-agricultural establishments
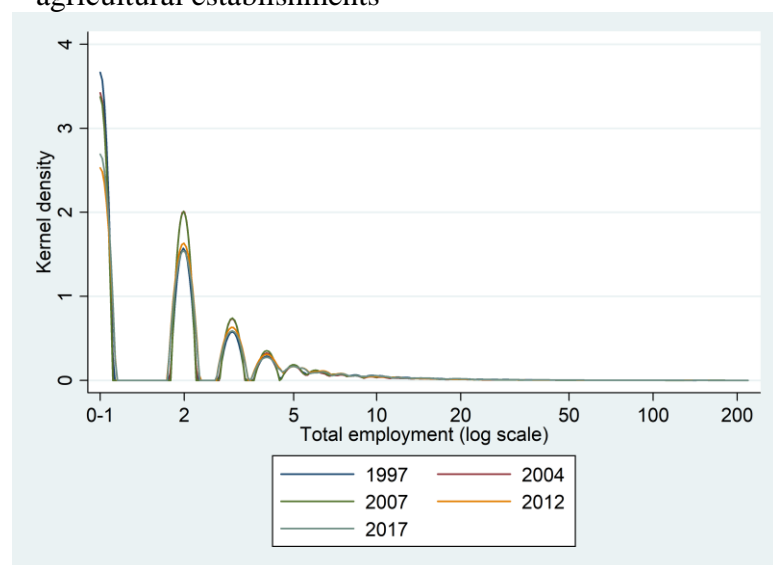
Source: Authors' analysis of 1997–2017 census microdata.
Note: The figure is truncated at 220 employees even though 80 out of 544,519 operating private-sector establishments have 220–1523 workers.

Figure A2. Full-time and part-time fixed checkpoints, West Bank, 2004–2015 (count)
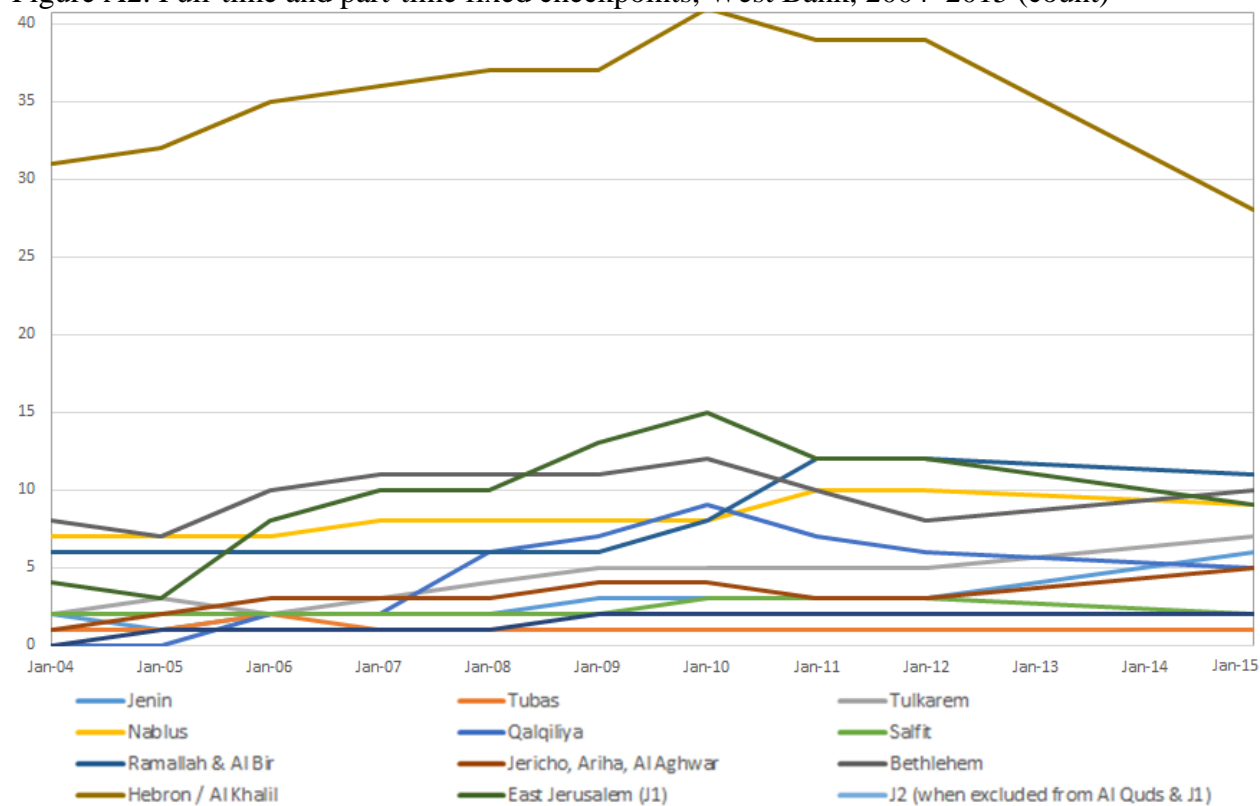
Source: Roy van der Weide, World Bank.

Figure A3. Flying checkpoints, West Bank governorates, 2005–2008 (count)
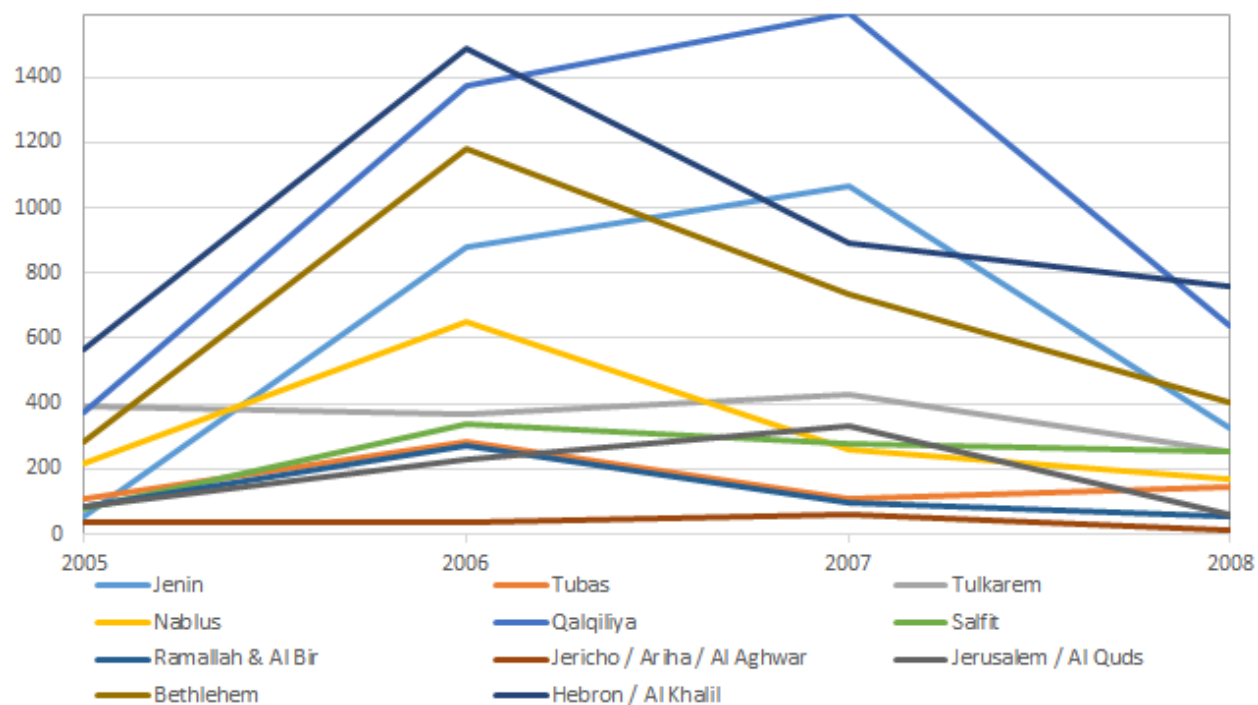
Source: OCHA oPt, Protection of Civilians Report.

Figure A4. Israeli settlements, West Bank governorates, 2002–2014 (count)
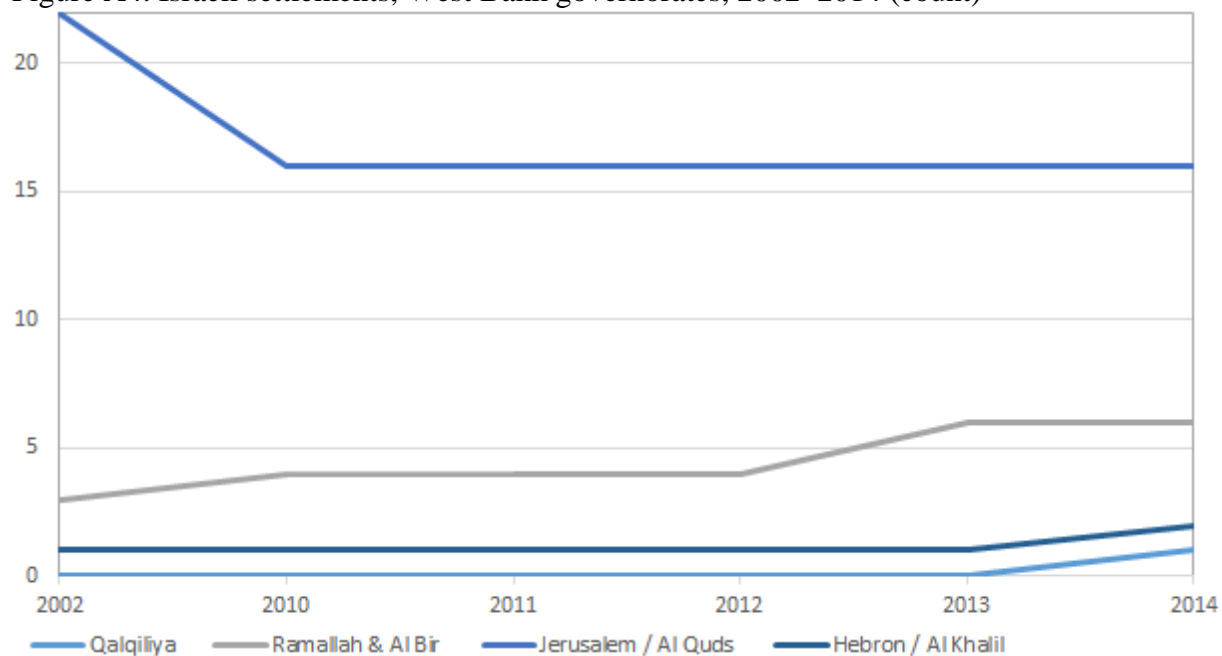
Source: B'Tselem. The rest of governorates are uniformly at 0.

Figure A5. Yesha Council settlements, West Bank governorates, 2002–2014 (count)
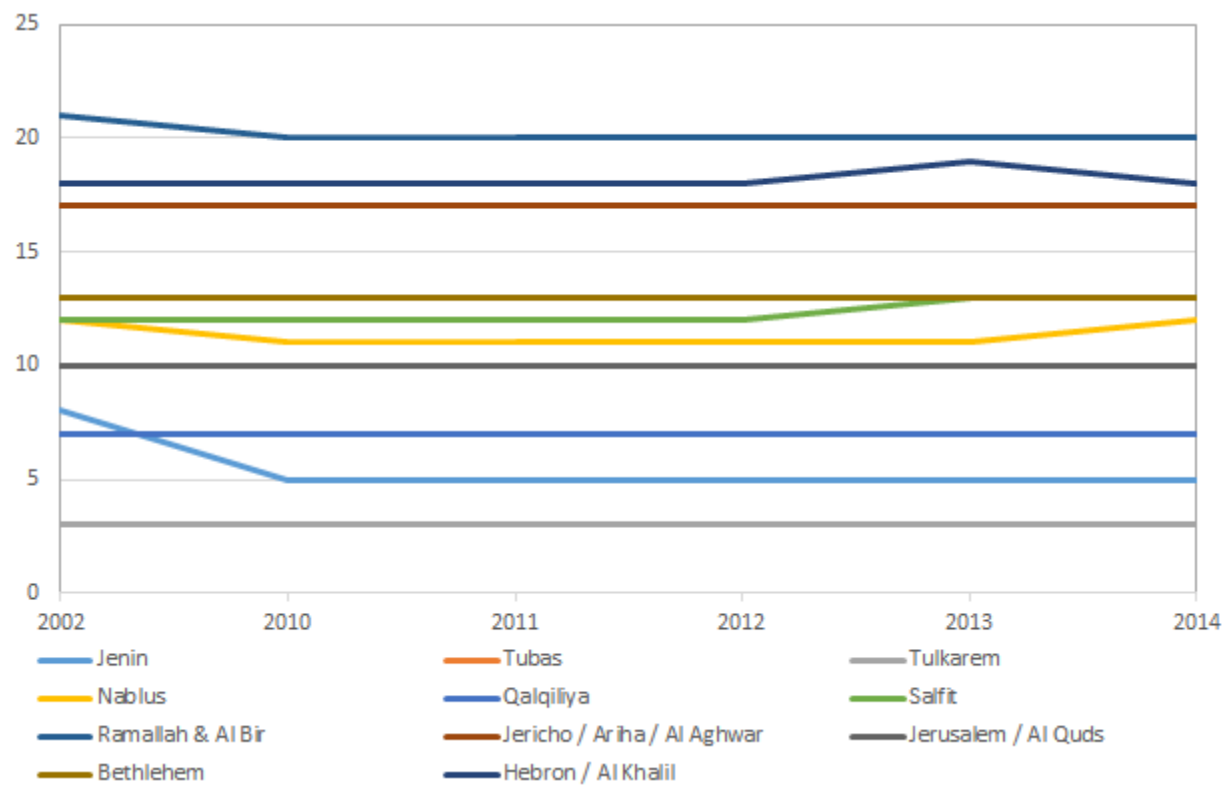
Figure A6. Yesha Council settlers, West Bank governorates, 2002–2014 (count)
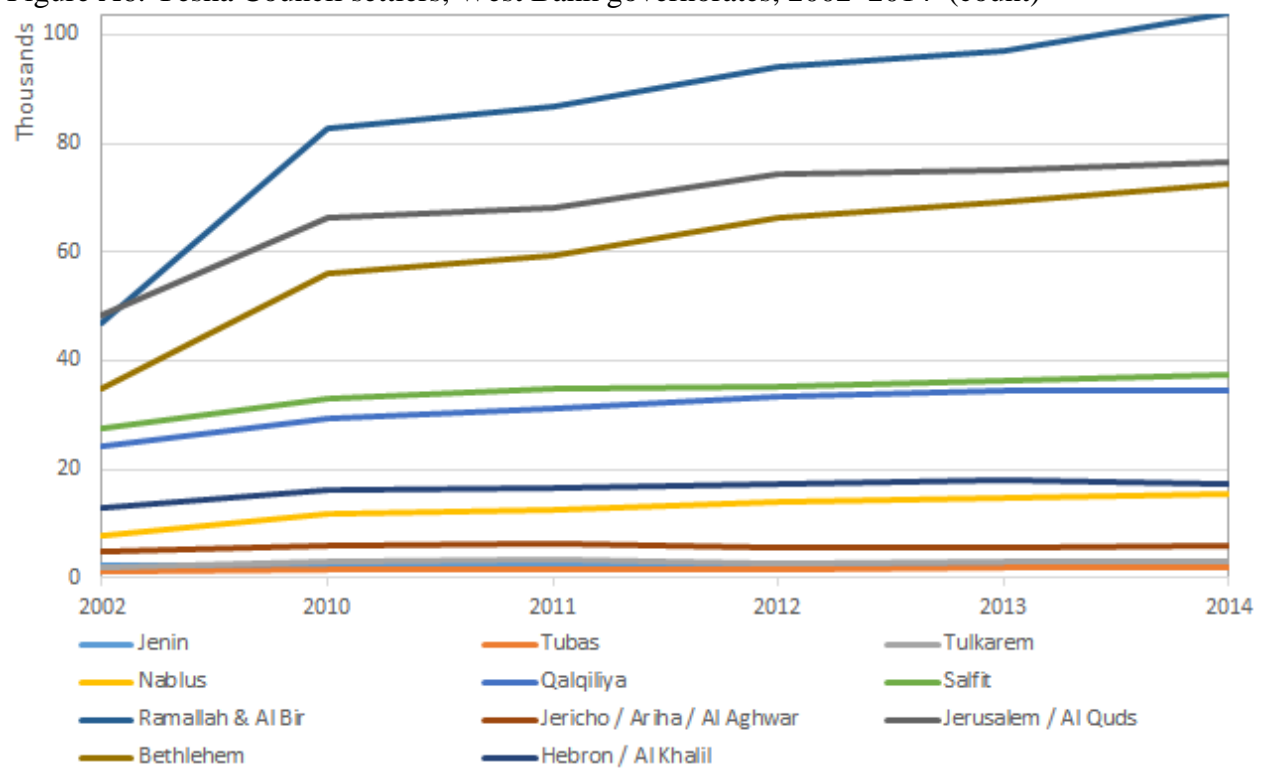
Figure A7. Net increases in the number of all Israeli settlers, and settlement housing-unit construction starts, West Bank (count of individuals or housing units in 1,000s)
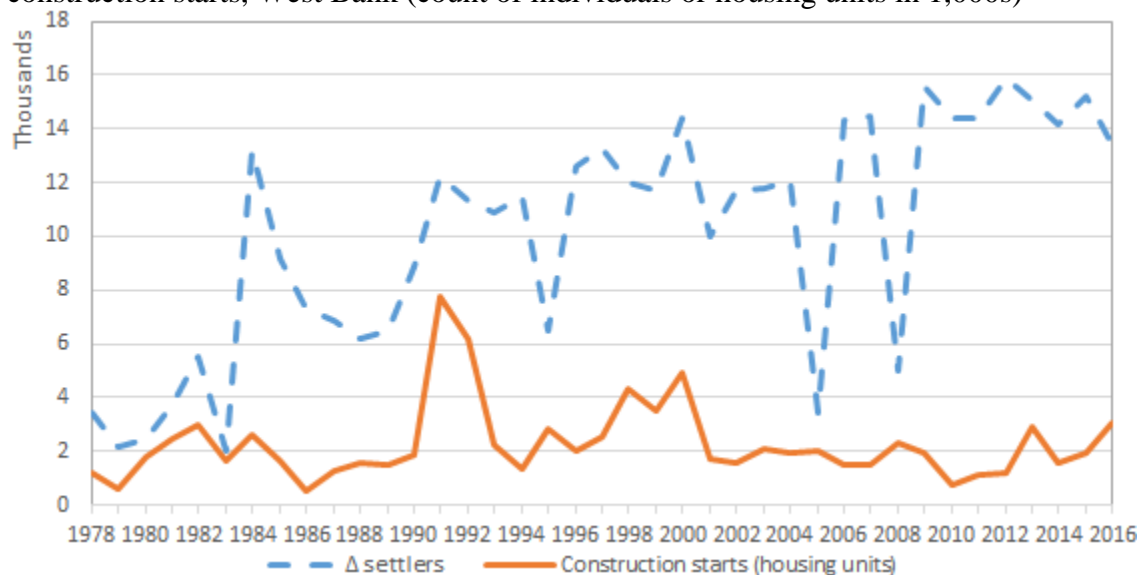
Figure A8. Demolitions of housing units without permits, West Bank governorates, 2006–2018 (count)
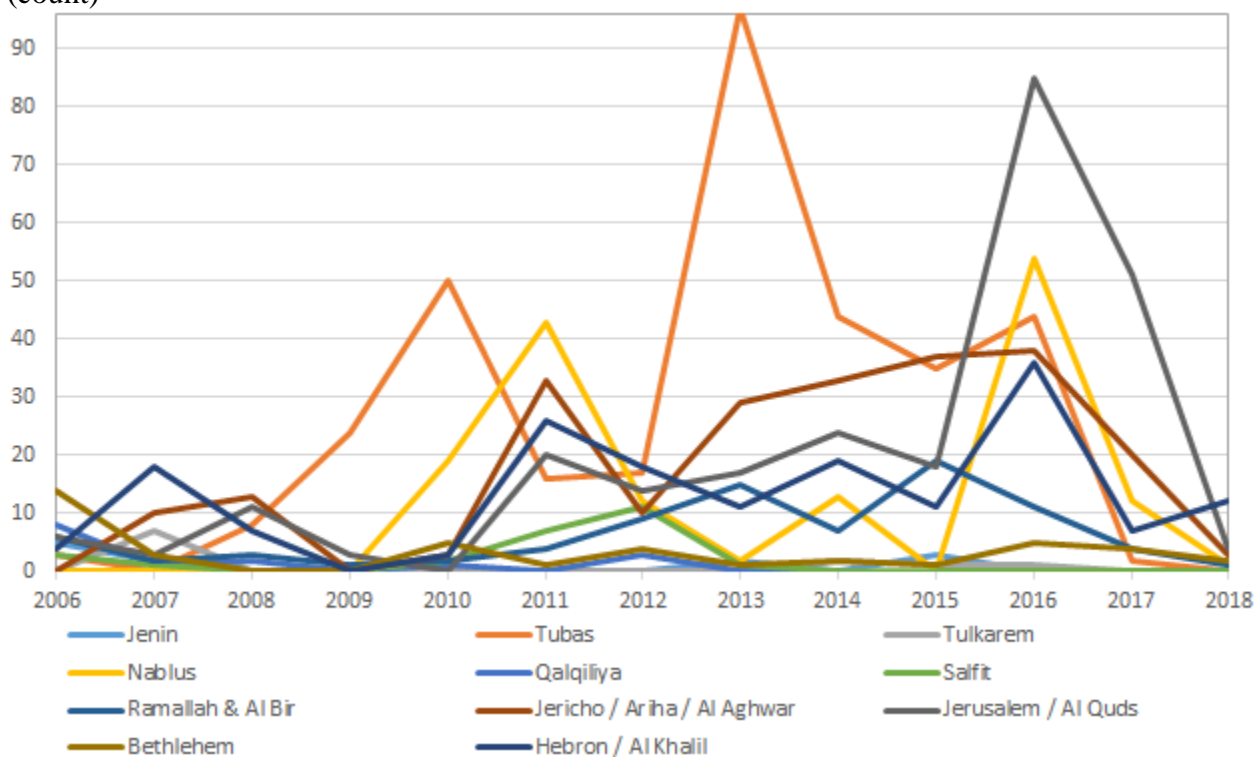
Figure A9. Adults made homeless, West Bank governorates, (count)
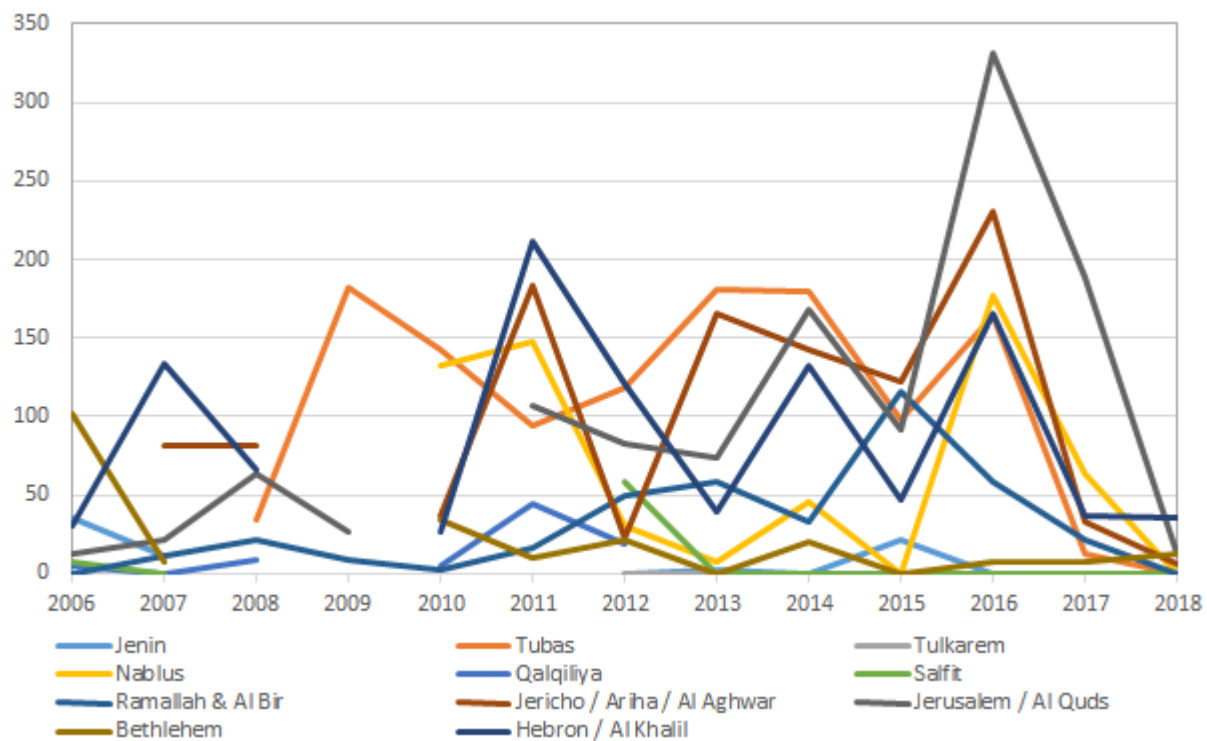
Figure A10. Minors made homeless, West Bank governorates, 2006–2018 (count)
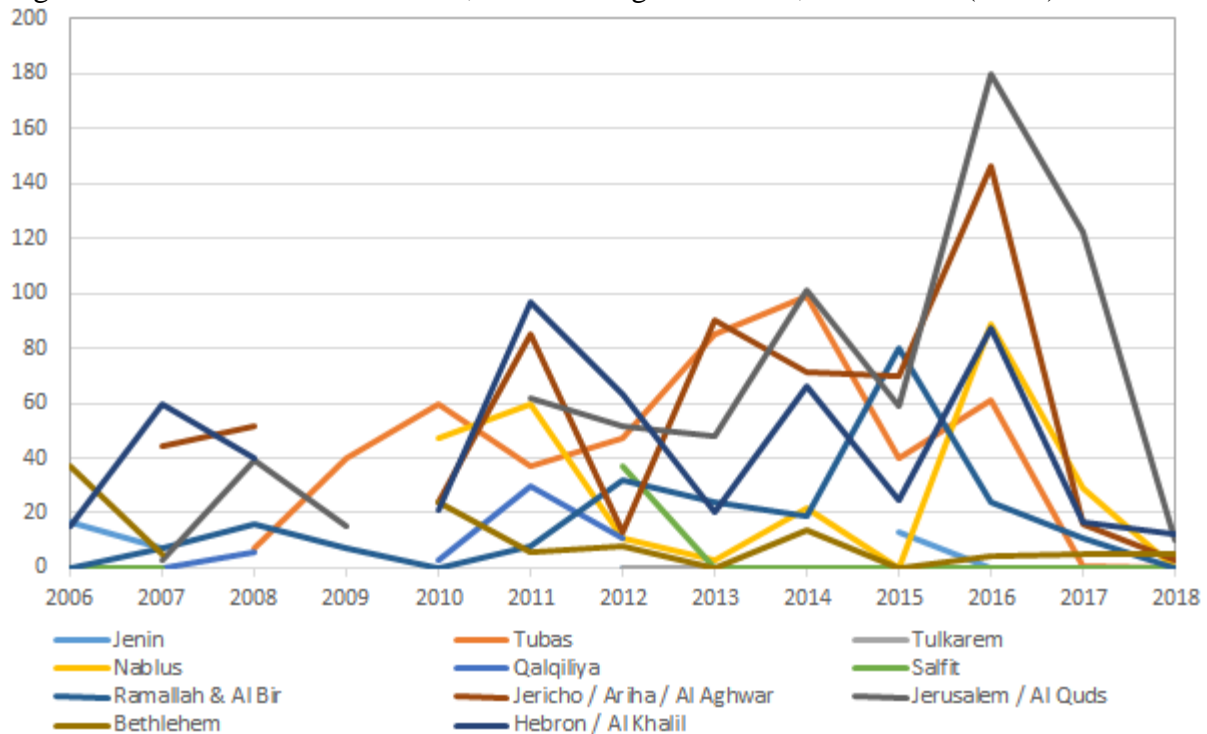
Figure A11. Curfew hours, West Bank governorates, 2005–2008 (hours)

Figure A12. Curfew incidents, West Bank governorates, 2005–2008 (count)

Figure A13. Personal searches, West Bank governorates, 2005–2008 (count)

Figure A14. Arrests, West Bank governorates, 2005–2008 (count)

Figure A15. Adult fatalities, West Bank and Gaza governorates, 2005–2015 (excl. 3 Gaza wars)
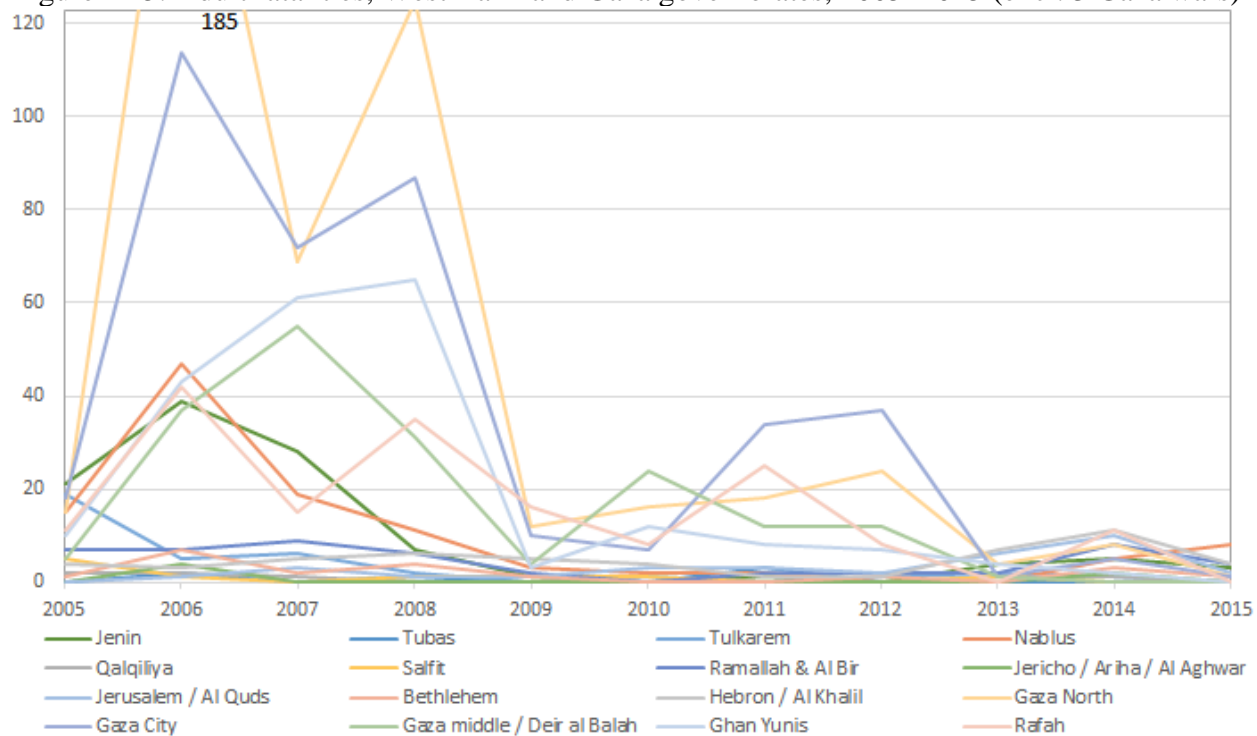
Source: OCHA oPt.

Figure A16. Child fatalities, West Bank and Gaza governorates (excluding 3 Gaza wars)
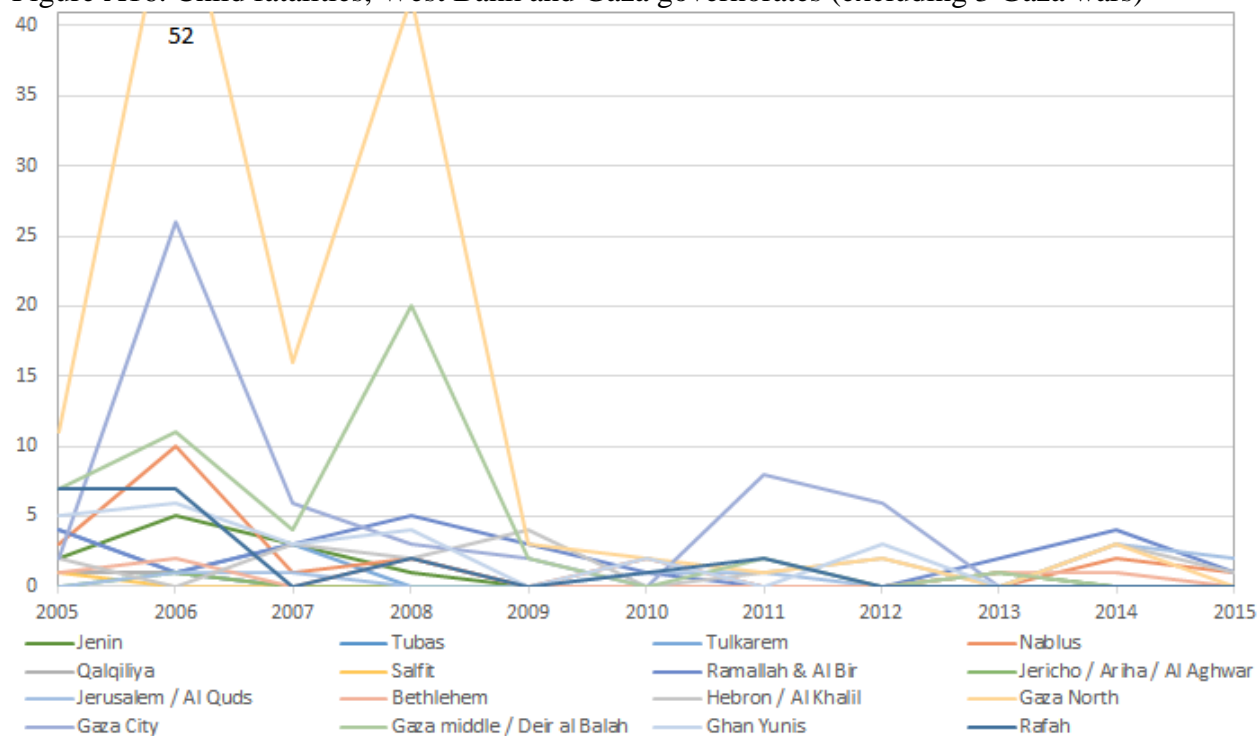
Source: OCHA oPt.

Figure A17. Adult injuries, West Bank and Gaza governorates (excluding 3 Gaza wars)
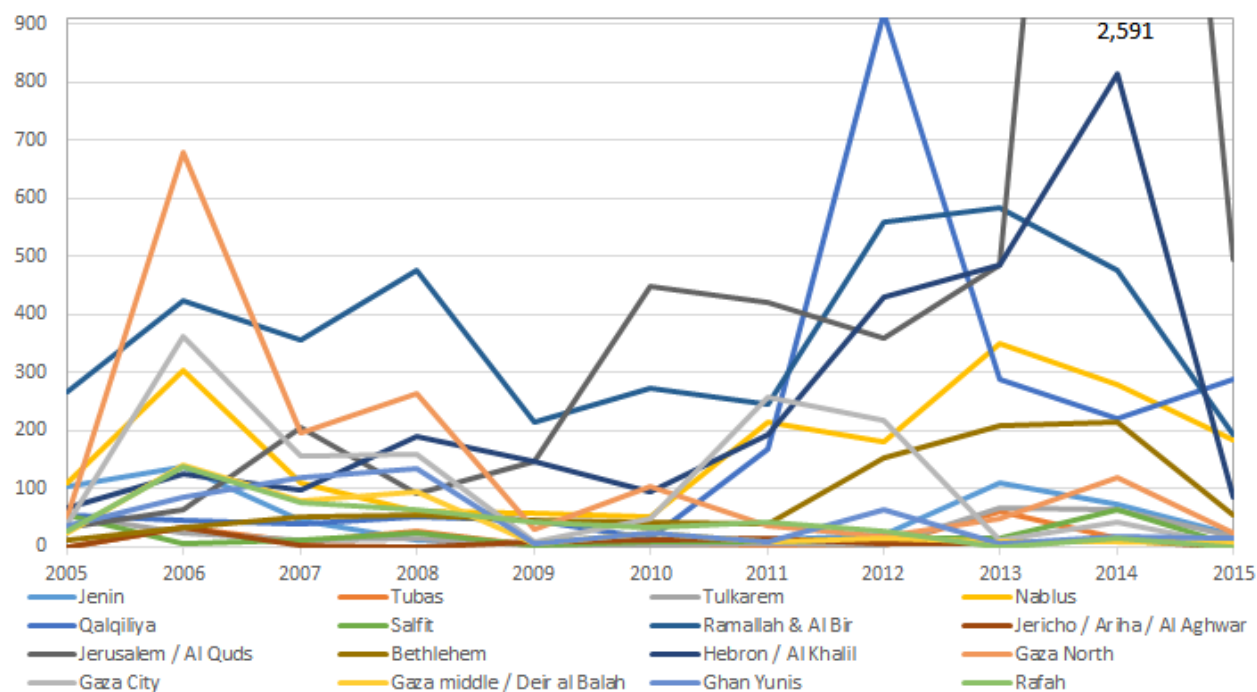
Source: OCHA oPt.

Figure A18. Child injuries, West Bank and Gaza governorates (excluding 3 Gaza wars)
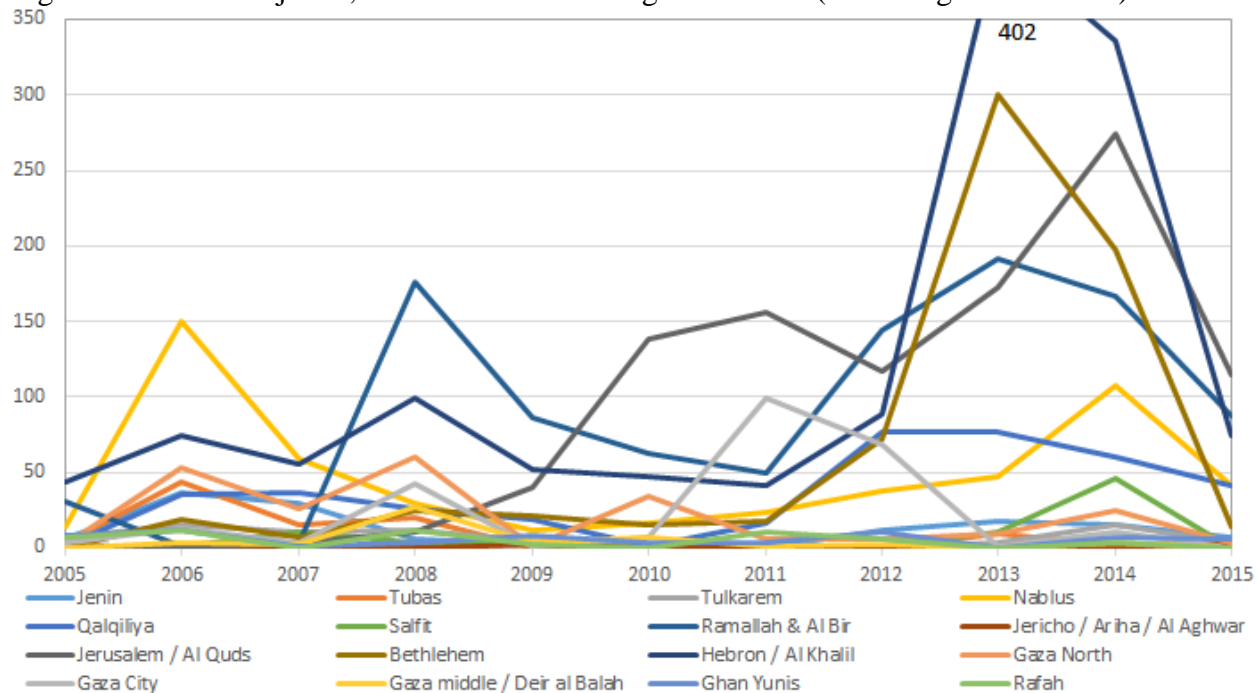
Source: OCHA oPt.

Figure A19. Complete and partial closures of border crossings, Gaza governorates (work days)
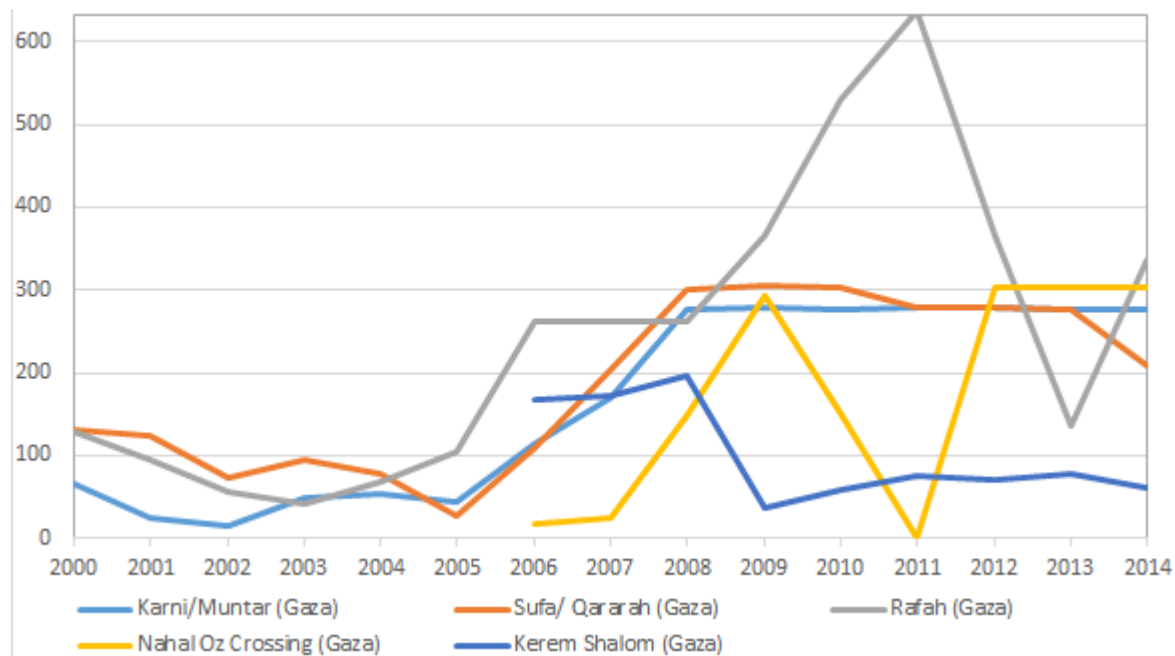
Figure A20. Comprehensive closure days by month, occupied Palestinian territories (days)
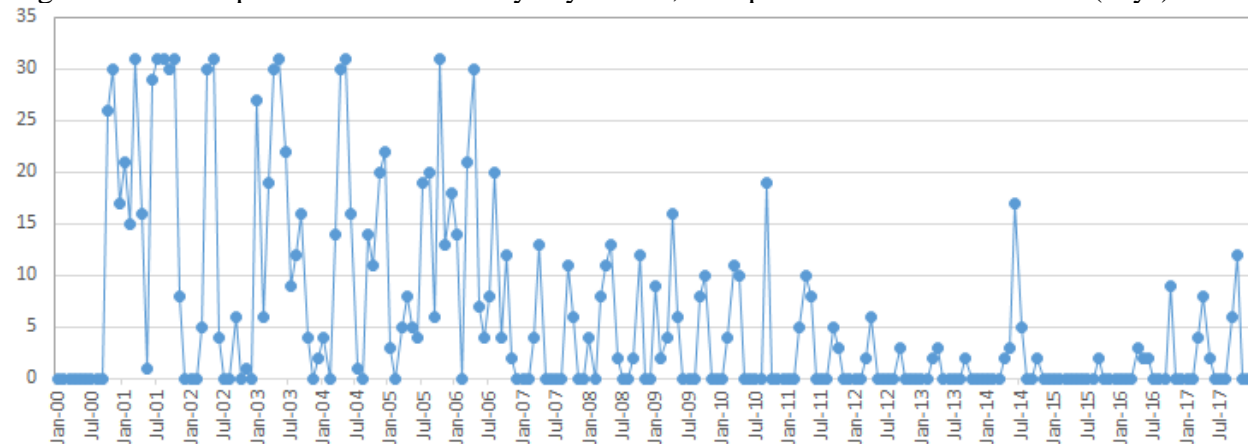
Figure A21. Displaced persons, West Bank governorates, 2009–2018 (count)
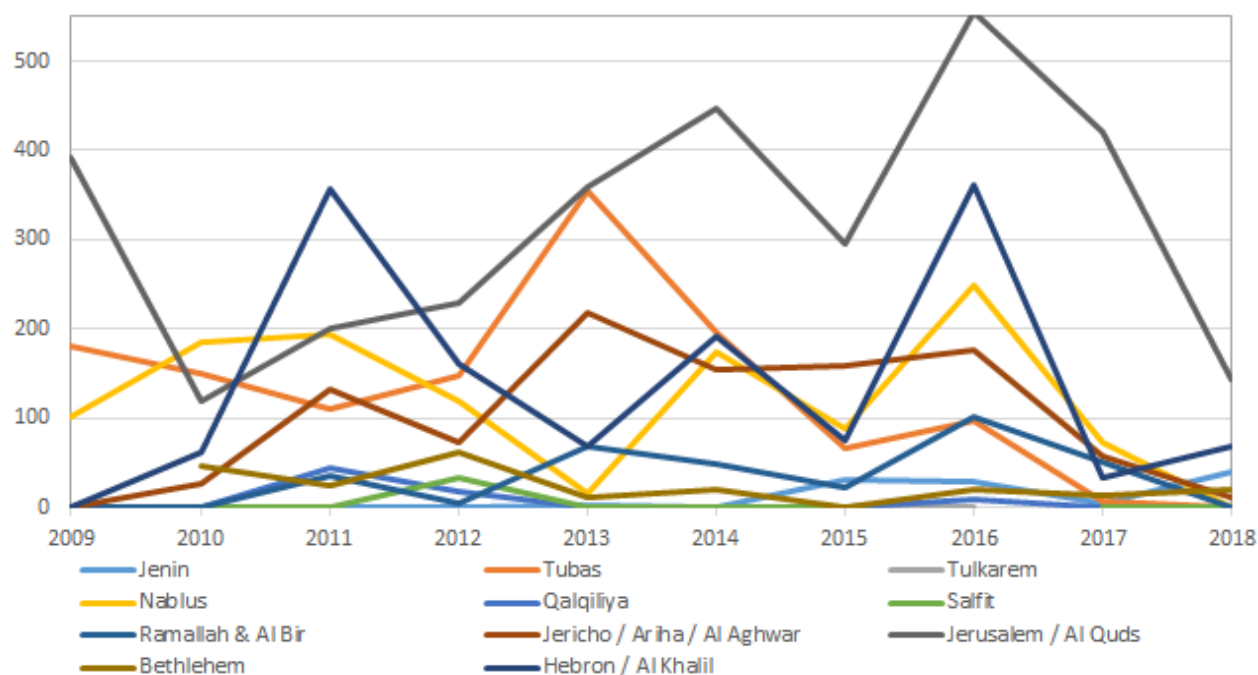
Figure A22. Eigenvalues of principal components, by year (2004, 2006, 2010, 2014)
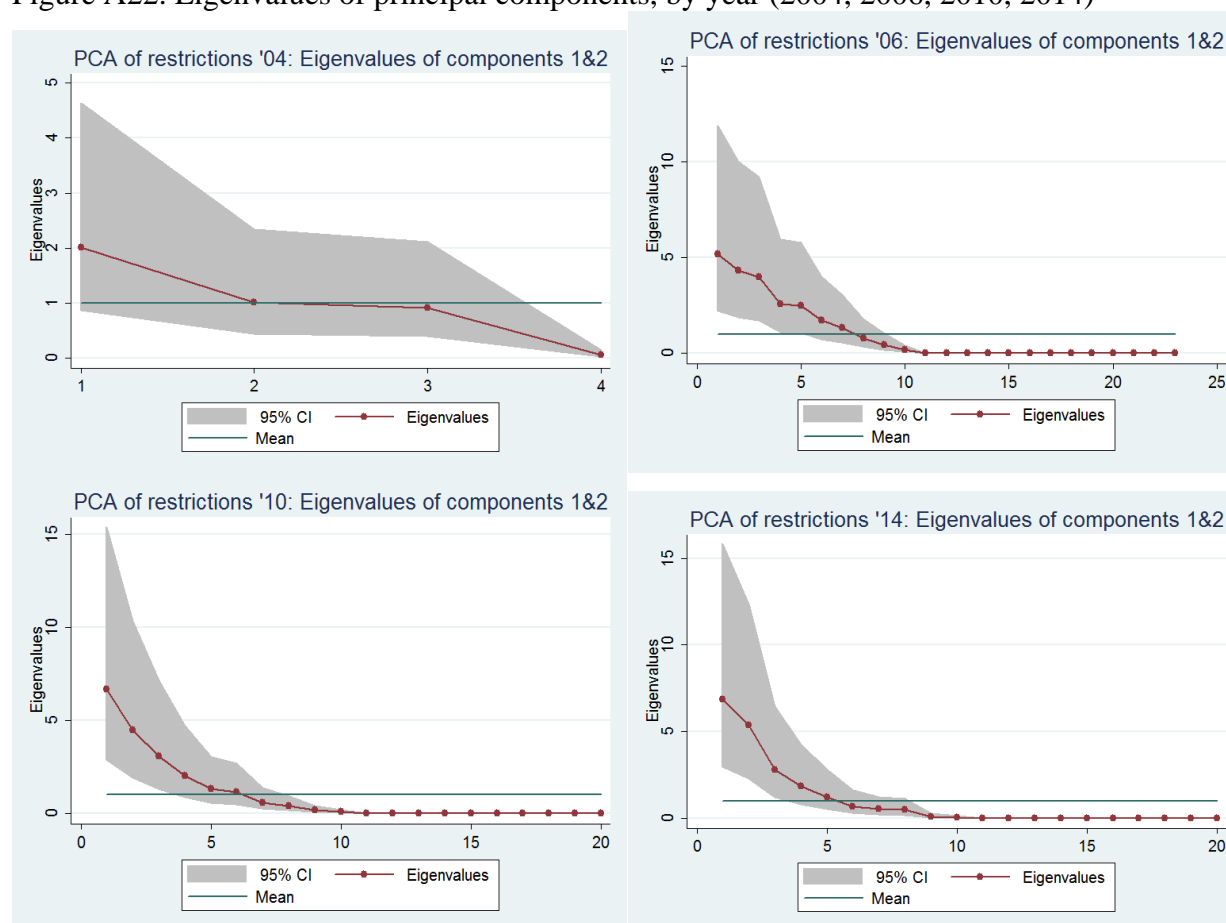
Notes: Mean is unity. Confidence interval assumes asymptotic distribution.

Figure A23. Variable loadings to the first two principal components, by year (2004, 2006, 2010, 2014)

Notes: Loadings are distributed from –1 to +1, and add up to +1 for each component, interpreted as shares of indicators' variability accounted for by the component (×100%).

Factor loadings on the first principal component are shown on the horizontal axis; loadings on the second principal component are shown on the vertical axis. Of interest are the variable loadings in the first component; the second component is shown just for illustration, but has no effect on the outcome of the PCA.

Figure A24. Governorate scores under the first two principal components, by year

PCA of restrictions '10: Governorate scores on components 1&2

PCA of restrictions '14: Governorate scores on components 1&2
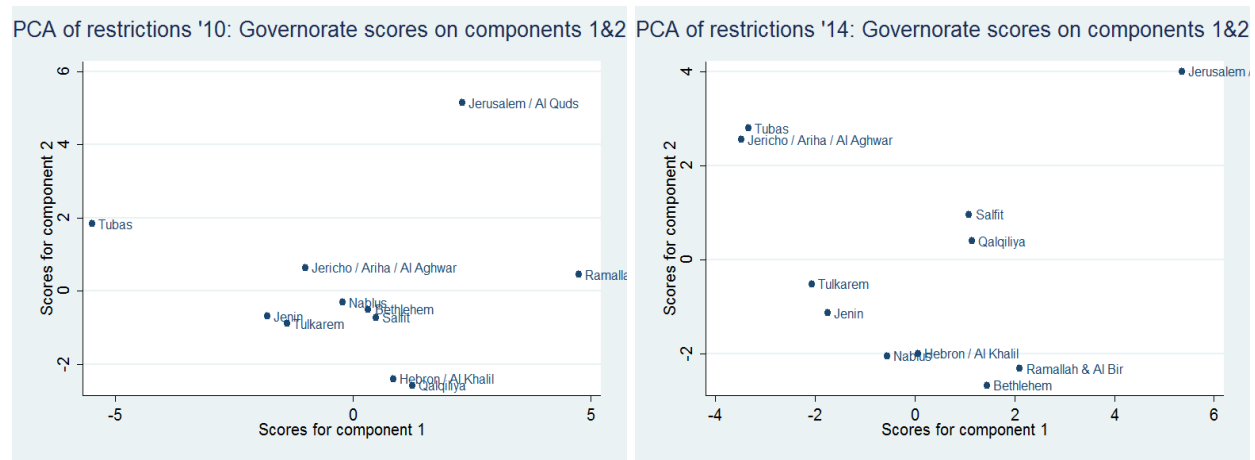
Notes: Scores distributed as normal.

Scores from the first principal component are shown on the horizontal axis; scores from the second principal component are shown on the vertical axis. Of interest are the PCA scores from the first component; the second component is shown just for illustration, but has no effect on the outcome of the PCA.

Appendix references

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