Report

Does the wage bill affect conflict?

Evidence from Palestine

Massimiliano Calì, Sami Miaari and Belal Fallah

Key messages

- To what extent do changes in the economic conditions of the local population influence conflicts? We address this question by providing the first systematic evidence on the impact of changes in the Palestinian public and private sector wage bills on the intensity of the Israeli-Palestinian conflict during and after the second Intifada. We find that districts in the West Bank and Gaza which experienced larger increases in the public sector wage bill experienced relatively higher levels of conflict in the following quarter during the second Intifada. This positive relation between public sector wage bill and conflict disappears in the West Bank at the end of the period of intense conflict. On the other hand increases in the private sector wage bill are associated with reduction in violence although this result is not consistent across specifications. We propose some possible explanations for these findings. Some Israeli imposed security measures, such as the West Bank Wall and security arrests appear to be associated with an intensification of the conflict even after the end of the second Intifada.

Contents

List of tables and figures

Tables

Annex: Additional Tables

Figures

Acknowledgements

1. Introduction

Conflicts and their associated violence are among the major causes of underdevelopment. That is why the determinants of conflict is one of the central questions in development (Blattman and Miguel, 2010; World Bank, 2011). The economic conditions of the local population are considered to be amongst the most important determinants of conflict. This is rooted in Becker's (1968) original idea that being gainfully employed raises the opportunity costs of individuals to participate in criminal activity. This type of rationale helps explain why much of the economic aid aiming at reducing such violence is spent to improve local economic conditions, trying to create employment and to raise the income of the local population (Beath et al., 2011; Berman et al., 2009; Crost et al., 2012)[1]. The belief holds that improving economic conditions can also help redress grievances thereby creating unfavourable conditions for violence (Crost et al., 2012). However the evidence in support of this rationale is so far not conclusive.

This paper revisits the relationship between local economic conditions and political violence in the context of the Israeli Palestinian (I-P) conflict. It does so by focusing on the effects of changes in the Palestinian public and private sector wage bill on conflict intensity in the recent spurt of violence in the 2000s. While the literature has utilized several channels to explore how economic incentives relate to conflict, e.g. unemployment rate, commodity price shocks, and income, this paper is the first to relate public and private sector income to conflict intensity. The focus on the public sector is particularly important in this context as the Palestinian public sector has been a key generator of employment for a growing labour force since the establishment of the Palestinian National Authority (PA) in 1994. This role became even more prominent with the outbreak of the second Intifada at the end of 2000 when alternative sources of employment (i.e. the Israeli labour market and the export sector) faltered. As a consequence, public sector employment grew substantially in absolute terms since 2000 and it grew somewhat even relatively to other types of employment (Miaari, 2009) (see Figure 1 below).

Due to the chronic fiscal deficit of the PA, the growth in public sector employment was (and still is) to a large extent funded by foreign aid. As in other conflict contexts, the foreign aid to the PA and to the Palestinian economy in general has been partly motivated by the international community's long-standing assumption that economic development is crucial to the peace process and to prevent backsliding into conflict (Sayigh, 2007). For example the World Bank (2002) noted that without donor assistance to cushion the economic shocks to the Palestinian economy in 1996 and in 2000, "the disappointments emerging from a failure to reap peace dividends might well have resulted in more violence…The relative calm and limited progress toward more permanent peace during the seven years between 1993 and 2000 can be attributed in some part to the effective efforts of the donor community".

While the belief of such an inverse relationship between employment and growth on one side and violence on the other side is held by many in policy circles, there is no empirical consensus on this relationship (Holmes et al., 2013). And the evidence is particularly thin in the context of the I-P conflict. This study aims to contribute to this debate, by examining the effect of the public and private wage bill on conflict intensity, using quarterly district level data for the West Bank and Gaza. The period of analysis comprises both the second Intifada period as well as its aftermath (2000-2010) for the West Bank. Gaza's analysis is restricted to the eve of Israel's unilateral disengagement in 2005, as the conditions needed for the empirical identification strategy are not met after the disengagement, as explained below.

Our findings suggest two distinct patterns in the West Bank: one occurring during the second Intifada and one in its aftermath. In the former period increases in a district's public wage bill are associated with a higher intensity of conflict in that district (measured by the number of Palestinians killed by Israelis) in the subsequent quarter. This finding applies also to Gaza. The opposite is true for the private sector wage bill, although this result is not robust across specifications. On the other hand we find no systematic relation between the wage bill variables and conflict after the end of the second Intifada in the West Bank (2005-10).

These results survive a number of robustness tests, including controlling for the cycle of violence, past grievances and the level of repression by Israeli forces. The estimation is also robust to addressing a number of concerns about the potential endogeneity of the public and private wage bill variable, which is addressed through instrumental variable (IV) estimation.[2]

The results during the second Intifada are consistent with the hypothesis that employment in the private sector may have raised somewhat the opportunity cost

---

1   For example Berman et al. (2011) report that General Chiarelli, the head of the American Army's operations in Iraq in 2006, was convinced that providing jobs and public services to Iraqis was more important than the military repression to quell the insurgency.

2   The IVs are constructed on the basis of the shift shares method that have been extensively used in the literature (Bartik 1991; Card 2000; Moretti 2010), including also to instrument the public employment (Faggio and Overman, 2013).

of engaging into political action while that did not apply to public sector employment. To explain this difference we provide suggestive evidence that unlike private sector employees, public sector employees did not lose their salary when arrested by the Israeli security forces. In addition anecdotal evidence suggests that unlike public employees, private sector employees may not have been able to shirk in order to engage in political activity.

Why was a higher public wage bill associated with more intense violence during the second Intifada? While we do not have enough data to test explicitly for the mechanisms underlying this result, we suggest an explanation consistent with our results. That is, in a context of generalized violence and intense grievances, a large share of the population would like to engage in political activities but only those who can satisfy basic economic needs can do so. Public or private sector employment can increase at the margin the share of people who meet these basic needs. For the private sector this effect was countervailed by the opportunity cost mechanism. As the latter does not apply to the public sector, increases in the level of public wage bill may be associated with higher levels of conflict.

Once the violence reduces and the grievances with it, a situation which resembles the post-second Intifada one, a much smaller number of people may be inclined to participate into political action. In that context changes in (public or private) wage bill appears to have no effect on violence, as the variation in violence across districts and time is small.

At the same time we also find that some of the factors linked to the development of grievances at least in the West Bank, including the construction of the West Bank Wall and the Palestinian prisoners, are associated with increases in conflict intensity. Removing these factors may well be a more effective strategy in reducing the conflict in the long-run than any employment opportunities provided by the public or private sector.

The paper is organised as follows: the next section places the study in the context of the literature, drawing out the main expected effects of employment on conflict; section 3 describes the importance of the public sector in the Palestinian economy especially in the last decade; section 4 and 5 describe the empirical strategy and the data; section 6 presents the results; and section 7 concludes with some policy implications.

2. Related literature

The study is related to the growing body of theoretical and empirical evidence that show the importance of economic factors in political activism, violence and conflict. To link our study to the literature, it is useful to consider the individual's decision to engage in political activism, whether violent or non-violent.[3] This decision has both costs and benefits associated with it.

Economic explanations of political violence

Economic explanations focus on the economic costs and benefits. On the cost side, the literature emphasizes the opportunity cost effect as a mechanism to explain engaging in political action/violence, which is represented by the income foregone due to engaging in political violence rather than pursuing economically productive activity. Thus, this mechanism postulates an inverse relationship between individual employment and income on one hand and the level of political violence on the other hand. Using rainfall levels as an instrument for economic growth, a number of studies found that adverse economic shocks increased the intensity and in certain instances the probability of conflict in various developing countries (Miguel et al., 2004; Hidalgo et al., 2010; Bohlen and Sergenti, 2010; Gwande et al., 2012).

Other empirical evidence that support the opportunity cost channel uses commodity price shocks as income shocks. For example Dube and Vargas (2013) show that violence increased more in coffee producing municipalities relative to the other municipalities in Colombia following the decline in international coffee prices in the 1990s. Similarly Besley and Persson (2008) and Bruckner and Ciccone (2010) provide evidence based on cross-country estimation. Closer to our setting, some evidence is also emerging on the effects of external aid on civil conflict. Crost et al. (2012) find that a conditional cash transfer programme in the Philippines significantly reduced the number of conflict incidents in treatment villages.

However some recent evidence has started to challenge the established negative relationship between income shocks and political violence. At the cross-country level Bazzi and Blattman (2014) do not find any robust evidence for the influence of commodity price shocks on the initiation of conflict, although they do find some support for the effects of these shocks on conflict intensity. Within countries, Blair et al. (2012), Do and Iyer (2010) and Berman et al. (2009) do not find evidence in favour of the opportunity cost mechanism. In particular using data on Iraq and the Philippines, Berman et al. (2009) find a negative correlation between unemployment and attacks against government and allied forces and no statistical correlation between unemployment and the rate of insurgent attacks that kill civilians. While these results are not causal (as they do not account for the likely endogeneity of unemployment), they are suggestive of alternative mechanisms than the opportunity cost linking employment and political violence.

The other economic element influencing participation in political action is the expected economic benefits gained through that participation. In a conflict these benefits are usually determined by the expected gains associated with winning the conflict. These gains can be related for instance to the exploitation of resources - usually natural resources - which conflicting parties fight to control. This type of 'prize' mechanism is part of the explanation for the eruption and/or the escalation of violence in many modern conflicts, such as in the Democratic Republic of Congo (De Luca et al., 2012), Sierra Leone (Bellows and Miguel, 2009), Colombia (Dube and Vargas, 2013; Angrist and Kugler, 2008) and in low income countries in general (Lin and Michaels, 2011). In the Palestinian case, such economic benefits could eventually materialise into better living standards in the event of an end to the Israeli occupation and the achievement of state sovereignty (Palestinian Ministry of National Economy and ARIJ, 2011).

Alternative explanations for economic links

Berman et al. (2009) speculate that a mechanism explaining their findings of a negative correlation between unemployment and conflict in Iraq, could the ability of the government to buy information about insurgents from non-combatants which is key to repress the insurgency. When local employment and incomes rise, the marginal cost of that information may increase (or equivalently the willingness to provide information may decrease).

In addition, Berman et al. (2009) note that when the political action is carried out of belief in the cause rather than to obtain direct economic benefits, then the action is usually conditional to the satisfaction of basic economic needs. Political action/violence in this case would be a "normal good"; therefore an improved economic situation could even lead to greater levels of participation.

Non-economic explanations

The main alternative explanation to seeing agents as motivated by economic factors, is that they are motivated by grievance. In the Palestinian context this is concerned

---

3   For simplicity in the rest of the paper we refer to both political action and political violence as the latter.

with the desire to avenge past grievances, such as past fatalities (Jaeger and Paserman, 2008), land confiscation and arrests, as well as to the just belief of fighting an occupying force. In the subsequent analysis we try to control for these factors to the possible extent so as to isolate this type of grievance mechanism from the opportunity cost one.

Measures of political violence

We may distinguish between three aspects of any given outbreak of political violence that need to be explained: the onset; the level of intensity of the violence; and the end. This study is focused on the second. Political violence by Palestinians in the Israeli-Palestinian conflict has taken a number of forms. The form that has received the most academic attention is suicide attacks by Palestinians against Israelis, which were first used on a large scale during the Second Intifada. Berrebi (2007), Sayre (2009) and Saleh (2009) examine the impact of economic conditions on the quantity and also on the 'quality' of suicide attacks (Benmelech et al. 2012). However, the results are mixed. Using individual-level data Berrebi (2007) shows that higher education and standard of living are positively associated with the probability of becoming a suicide bomber, while Sayre (2009) and Saleh (2009) find the opposite relationship using district-level data. On the other hand Benmelech et al. (2012), using similar methodology to the latter studies (but more recent time periods), find supporting evidence only for the positive link between unemployment and the quality but not quantity of suicide attacks.

The most common form of political violence has been in the form of throwing stones and other projectiles at Israeli security forces and at times, civilians. However, unlike for suicide attacks, there is no database on these kinds of attacks. It is therefore necessary to use data on Palestinian fatalities. This is an indirect measure of Palestinian political violence since it is influenced by the extent to which Israeli security forces are present and are using lethal force. It also includes fatalities of those who were not engaged in political action. Despite these shortcomings this is the closest measure available to the intensity of the conflict in the West Bank and Gaza, as the majority of Palestinian fatalities tend to happen in the context of political actions, including demonstrations and military operations. Indeed this measure has already been used as a proxy of conflict intensity (Miaari et al., 2012; Calì and Miaari, 2013). We complement this measure with one which excludes the fatalities of those who were killed while not directly engaged in political action.

Correlation and causality

Distinguishing between correlations and causality is particularly difficult in researching the relationship between economic factors and conflict, since a correlation between the two could be due to the effect of conflict on the economy or the other way round. The main way in which the international literature on economics and conflict has tried to overcome this, is through researching the effect of economic shocks which themselves are not affected by the conflict.

Closer to our setting, Miaari et al. (2012) find that a large unemployment shock - i.e. Israel's abrupt imposition of severe restrictions on the employment of Palestinians within its borders at the outbreak of the second Intifada - increased violence in the West Bank.[4] These results may provide some prima facie support for the opportunity cost theory of violence, but as we argue below they are not necessarily inconsistent with ours. First, Miaari et al. (2012) may be capturing the effect of increased grievances of Palestinian employees against Israel due to the prohibition to work in Israel rather than an opportunity cost mechanism. Second, they focus only on a specific type of private employment, which as we argue below, is likely to have a different effect on conflict intensity.

---

4   The authors find that localities which were relatively more dependent on employment in Israel experienced relatively more fatalities after the restrictions were imposed.

3. The PA, employment and the economy in the oPt

Since the creation of the PA in 1994, the public sector expanded swiftly to provide public services to the Palestinian population which had been administered by the Israeli authority until then. As the resources for the creation and the expansion of the PA came chiefly from abroad, this period marked the beginning of aid dependence for the Palestinian economy. Labour migration to Israel (and to the Gulf countries) had historically been the channel through which the Palestinian economy financed its large trade deficit. However, as labour exports declined in the 1990s, foreign assistance started to replace them to keep the Palestinian economy in balance (Calì, 2012).

Soon after the second Intifada erupted in September 2000, following Israeli government opposition leader Ariel Sharon's visit to the Al Aqsa esplanade, the Israeli labour market practically shut down to the Palestinians (Miaari et al., 2012). The ensuing violence and the Israeli restrictions imposed on the movement of people and goods in and across the oPt was associated with further decline in the Palestinian economic activities.

During this period the public sector became the employer of last resort in a shrinking Palestinian economy, which had exhausted other sources of economic and employment growth. Figure 1 shows that the public sector grew as a share of wage employment in both West Bank and Gaza in the initial period of the second Intifada. In Gaza almost two in three employees were in the public sector in 2001, a strong confirmation that the entire economy was sustained by public sector employment.

Israeli military actions in the West Bank and Gaza along with Israeli restrictions on Palestinian travel to Israel, between the West Bank and Gaza, and within the West Bank brought the Palestinian economy almost to a halt. As a consequence real GDP collapsed and unemployment soared. At the end of 2002, the latter stood between 42 and 53 percent up from 10 percent in the third quarter of 2000, according to the Palestinian Central Bureau of Statistics. This period was marked by intense violence. Israeli military actions in both the West Bank and Gaza caused thousands of Palestinian casualties both among combatants and civilians. During the same period, Palestinian militant factions also caused several Israeli fatalities (although with a smaller order of magnitude than Palestinian fatalities) mainly through suicide attacks inside of Israeli territory. In 2003-04, as the violence of the Second Intifada progressively declined, the Palestinian economy started to bounce back, sustained by foreign assistance, the public sector and by some return of Palestinian workers to Israel (Calì, 2012).

The economic recovery that prevailed in the 2003-2004 period was soon disrupted as Hamas formed a Palestinian government following their victory in the legislation council elections in 2006. The flow of international monetary aid halted as it was conditional on Hamas's recognition of Israel. The economic conditions have worsened futher in the Gaza strip in the aftermath of Hamas' military control. The political polarization between Fatah and Hamas in 2007 has produced a Hamas led government in Gaza and a care taker government in the West Bank led by Salam Fayyad. The financial aid resumed, unlike in Gaza, for the Fayyad's government, which helped the West Bank economy to recover. This further fed the growth of the PA. During 2005-2010, the GDP share of the non-tradable sector rose, relative to the tradable sector, whose weight in the economy has eventually become smaller even than the public administration and defence sector. Also, during this period, the development of the non-tradable sectors, coupled with some increase in employment in Israel and the settlements, determined a small decrease in the share of public sector in employment in the West Bank (figure 1).

The growth of the public sector has been funded by large inflows of foreign aid, which sustain the Palestinian economy and help maintain the balance of payment (BoP) in equilibrium. With limited growth of labour income from abroad, the increasing Palestinian trade deficit has been almost entirely compensated by the surge in foreign aid. Current transfers in the BoP, which are essentially foreign aid, increased four-fold between 2003-04 and 2008-09, almost single-handedly maintaining the current account in balance (figure 2).

As argued by Sayigh (2007) one of the international community's aims in funding the PA has been to build a momentum for the peace-building process by sustaining the Palestinian economy. As in other conflict affected contexts, the flow of foreign assistance was motivated to some degree by an opportunity cost theory. There has been an assumption that as long as people are employed and the economy grows (or at least does not collapse), violence can be minimised and the conditions to negotiate a peace agreement can be promoted. Our empirical analysis

will attempt to test the extent to which this rationale is important in explaining the intensity of the conflict in the last decade. As exhibited in figure 3, while the public sector grew in all districts during that period, the rate of growth and trend of public sector employment have been uneven.[5] The sections below describe how we use these different patterns to identify the impact of public sector employment on the conflict.

Empirical Strategy

Our basic strategy involves running quarterly district-level regressions of conflict intensity on public (and private) sector wage bill, i.e. the product of the number of the district's public (private) employees and the district's average public (private) sector wage, while controlling for other factors that potentially affect conflict. All explanatory variables are measured at the previous quarter to mitigate direct statistical endogeneity. Yet, we further address this issue using an Iv approach. The baseline specification reads as follows:

$$(1)$$

$$f_{dq} = \mu_d + \beta PuW_{d(q-1)} + \phi PrW_{d(q-1)} + \Theta X_{dq} + \gamma_q + \varepsilon_{dq}$$

where f is the number of Palestinian fatalities that are caused by Israelis in district d in quarter q, μ is district fixed effects, γ is quarter-year (round) fixed effects and ε is the error term. We also use a different measure of conflict, i.e. the number of attacks inside Israel (both successful and unsuccessful) carried out from each Palestinian district in each quarter. This measure should provide a slightly different dimension of conflict intensity than Palestinian fatalities.

The main variables of interest (PuW and PrW) measure the log of total public and private sector wage bill respectively. District fixed effects should capture any district time invariant factors, such as geography, history, number of refugee camps, and proximity to Israeli cities. Round effects should account for changes in violence intensity over time as well as for any other common time variant shock at the regional level (West Bank vs. Gaza strip). In addition, vector X includes other district time varying variables potentially affecting the conflict. First, it includes

socio-demographic factors such as the proportion of males in the population, proportion of married individuals, proportion of the population in the 15-40 age range, average education (in years), proportion of refugees in the population, proportion of refugees living in refugee camps and proportion of unemployed refugees. Second, X includes district-level unemployment rate which controls for local labour markets economic conditions. Finally, we control for other factors that are likely to be associated with grievances. These include the portion of West Bank wall constructed in each district and the population of Israeli settlements within ten kilometres from the district's capital.[6]

Following the previous literature (as discussed in Krueger and Laitin, 2008), we estimate the equation using Negative Binomial method. This is an appropriate method for analyzing count data characterized by over-dispersion and a large share of zeros in the dependent variable (Long and Frees, 2006).[7] Similar results were obtained using Tobit (left-censored) technique.[8] In addition, we test whether the negative binomial is preferred to the Poisson model. The Wald test, reported in table 1 shows that the unconditional variance of Palestinian fatalities is larger than the mean, favouring the choice of the negative binomial regression. Nonetheless, we employ conditional rather than unconditional fixed effects estimator, as the latter is biased and inconsistent due to the incidental parameters problem (Greene, 2011).

We run model (1) for the West Bank and the Gaza strip separately for a number of reasons. First the relevance of the public sector in the economy has been quite different since the beginning of the second Intifada. Gaza has relied more heavily on the public sector as a source of employment than in the West Bank (see figure 2). Second, unlike in West Bank, the waves of violence that followed Israel's disengagement from Gaza in 2005 involved cross border armed clashes between Palestinian military factions and Israeli forces, which often executed air raids causing widespread Palestinian fatalities. Therefore, we limit the analysis for Gaza to the period between the breakout of the second Intifada (third quarter of 2000) until the disengagement (third quarter of 2005), while we extend the sample for the West Bank until the end of 2010.

The identification of causality in this case is made difficult by the fact that changes in both public and private sector employment may arguably not be exogenous to

---

5   The main exception to this rule is the substantial drop in public employment in Jerusalem between 2000 and 2002. It is unclear to what extent this drop may be related to data collection irregularity due to labour force surveyors' inability to access certain localities during the peak of the Intifada. We do exclude the localities within Jerusalem part of the Jerusalem municipality (those that are beyond the reach of most West Bankers) from the analysis to attenuate this possible problem. As a robustness check, we also exclude the entire Jerusalem district from the analysis. Still we obtain similar results (not shown here but available from the authors upon request).

6   In a number of specifications we also include the lagged number of Palestinian fatalities caused by Israelis and the lagged number of Israeli fatalities by Palestinians. The latter captures the cycle of violence effect (Jaeger and Paserman, 2008), while the former captures both the grievance effect as well as the repression effect.

7   The case of zero observations is prominent in West Bank districts in which 37 percent of the fatality observations are zeros. This is compared to only 2 percent in Gaza's fatality data.

8   Unconvergence of the Zero-Inflated Negative Binomial (ZINB) regression, does not allow us to use Vuong (1989) in order to compare between ZINB and the Negative Binomial models.

violence. First, it could be that that public and private sector employment growth may have been driven by local economic conditions, such as high unemployment, which may be in turn correlated to violence. Controlling for the rate of district's unemployment in the previous quarter reduces this type of endogeneity concerns. However, in a conflict situation, public sector employment may have been used as a deliberate strategy by the PA attempting to quell the tensions or to compensate those areas that are particularly affected by the conflict. Similarly past violence may affect private sector growth and to the extent that violence is persistent over time, future violence may be spuriously correlated with past private sector employment. As explained in the next section, we employ a two-stage instrumental variable estimation to tackle this issue.

Data

The unit of observation in our analysis is the district. Therefore, our sample below consists of 451 observations for the West Bank (11 districts ×41 quarters) and 100 observations for the Gaza Strip (5 districts ×20). Data on the Palestinian labour market and socio-demographic characteristics of Palestinian districts are obtained from the Palestinian Labour Force Survey (PLFS), collected by the Palestinian Central Bureau of Statistics (PCBS) for the years 2000-2010. The PLFS was first collected in 1995 following the creation of the PA, and since then it has been administered every quarter to a nationally representative sample of households. We restrict the sample from the PLFS to individuals in the labour force between the ages of 15 and above.

Data on the number of Palestinian and Israeli fatalities in each district since 2000 are taken from B'Tselem-The Israeli Information Center for Human Rights in the Occupied Territories).[9] B'Tselem publishes detailed records of every fatality on both sides of the Palestinian/Israeli conflict during the Second Intifada. As in previous studies (Miaari et al., 2012; Cali and Miaari, 2013), the number of Palestinian fatalities killed by Israel is the main measure of conflict intensity across the oPt. This is a suitable measure as most of these fatalities came as a consequence of political demonstrations quelled by the Israeli army or direct confrontation between the Israeli army and Palestinian armed factions. B'tselem also classifies most of

the fatalities according to whether the Palestinians were killed while taking part into the hostilities or not. Using this information we construct another dependent variable as the number of Palestinians killed by Israelis while taking part into the hostilities or participating into a demonstration. We use this variable for robustness check as it is based on a classification of only part of the Palestinian fatalities.

The evolution of Palestinian fatalities, depicted in figure 4, confirms that in the West Bank the period of intense violence of the second Intifada peaked in 2002 and declined through 2003 and 2004, when the second Intifada finally drew to a close. This period was followed by periods of relatively low intensity conflict. In Gaza, after the drop in 2003, violence picked up again in 2004 and lasted until the first half of 2005 (figure 4). After that Israel unilaterally disengaged from Gaza in August-September 2005, withdrawing its settlers and soldiers that had controlled the territory since 1967.

Data on Israeli settlements' populations and location as well as data on the length of the West Bank wall, which restricts the movement of into Israel, come from the Applied Research Institute–Jerusalem (ARIJ). Because data on the length of the wall is missing for 2003, 2005, 2007 and 2009, we use linear interpolation technique to impute these observations.

Data on the number of Palestinian prisoners in Israeli jails come from the Palestinian Ministry of Prisoners. Data on Pre-Intifada support for the Fatah movement in the election of the Palestinian legislation council in 1996, originates from the Palestinian Central Elections Committee. Summary statistics for key variables, an average over the sample period, for West Bank and Gaza along with their description are provided in Table 1.

Finally, data on Palestinian public opinion comes from the Development Studies Programme (DSP) at Bir Zeit University. The DSP has conducted regular public opinion polls on all aspects of Palestinian life since the year 2000. The polls include information about respondents' demographic characteristics, location, and attitudes towards various aspects of the I-P conflict.[10] In the polls, respondents were asked whether they supported or opposed the continuation of peace talks with Israel.[11] We use these responses to measure attitudes towards the I-P conflict.

---

9 Available at: http://www.btselem.org.

10 Every poll has 1,200 observations, around 65% of them from the West Bank and Jerusalem and the rest from the Gaza Strip. General information on these polls, including methodology, the wording of the questions, and summary results are available from the DSP web site: http://home.birzeit.edu/dsp/opinionpolls/

11 The question on political support appeared in 18 polls between November 2000 and February 2007, for a total of 21,156 observations. The question on support to the peace negotiations appeared twelve times in the polls surveys between November 2000 and September 2006. The sample size for this variable is 13,692 observations.

4. Results

The results for the West Bank are reported in Table 2. Column (1) shows that the public sector wage bill coefficient is positive and statistically significant at the 1% level. The marginal effect of the wage bill effect indicates that increasing the public wage bill by 1% is associated with an increase in the number of Palestinian fatalities by 1.26.

On the other hand the effect of the private wage bill is not significantly different from zero. That is also the case for the unemployment rate. As for the grievance factors, the only variable with significant effect on Palestinian fatalities is that of the West Bank separation wall. The sign of its coefficient is positive and significant at 1% level.

In column (2) we add the lagged number of Israeli fatalities to control for the cycle of violence effect and lagged number of Palestinian fatalities to control for the grievance as well as repression effect. Both of these lagged fatality terms are insignificant and the positive effect of public wage bill remains the same.[12] In column (3) we also include the stock of Palestinian political prisoners in Israeli prisons lagged one quarter as a further control. The effect of this variable on the conflict intensity is a priori ambiguous. On the one hand it might decrease participation in violent activities by decreasing the number of activists. On the other hand, imprisoning Palestinians may also increase grievances against Israel and induce further violence. The results suggest that latter effect prevails. Specifically, the coefficient of lagged prisoner is positive and significant at 1% level. Still, the public wage bill remains highly significant and positive with an even larger coefficient, while the private wage bill remains insignificant.

So far we have assumed that the effect of the public and private sectors wage bill in the West Bank sample is the same throughout the entire period of the analysis. However, the conflict conditions changed substantially during the period. In particular, as shown in figure 4, the intensity of the conflict was sustained only until 2004 and declined afterwards. Moreover the death of president Yasser Arafat at the end of 2004 marked a new era of low violence intensity as the Western-backed PA's president Mahmoud Abbas took over. Therefore, in Column (4) we interact the public and private sector wage bill by a post-2004 dummy. Once we introduce this interaction effect, the coefficient of the public sector wage bill slightly increases in size. Its interaction term is negative, but it is statistically insignificant. However, the F-test indicates that the sum

of the two coefficients (public wage bill and its post-2004 interaction) is not significantly different from zero at any standard levels of significance. This result suggests that the positive effect of public wage bill on violence disappeared after the end of the period of intense violence.[13] This result can be clearly seen in columns (5) and (6), which run the regressions separately for the Intifada and the post-Intifada period. In the latter period the effect of public sector wage bill is not significantly different from zero. On the other hand the private wage bill (and its interaction) remains not significant throughout. We also show that the results are robust to including a variable directly measuring Palestinian grievances, i.e. the district's share of support for armed violence against Israeli civilians.

In columns (8) and (9) we restrict the dependent variable to the Palestinian fatalities occurred while the Palestinians were taking part into the hostilities, including also demonstrations. This measure should allow for a more explicit test of the opportunity cost hypothesis than the dependent variable considering *any Palestinian fatalities*. When including the entire period, the public wage bill remains negative though it loses some significance, while the private wage bill turns negative but remains not significant (column 8). When restricting the period to the second Intifada the public wage bill is positive and significant, while the private wage bill becomes negative and significant (column 9). This result suggests the importance of the opportunity cost mechanism in driving the private wage bill effect on violence.

The results for Gaza are reported in Table 3. The model specification, reported in Columns (1)-(3) is the same as that of the West Bank, except that the period of analysis is limited to 2005 and that the West Bank wall variable is not included. Consistent with the West Bank, the results suggest a significant positive relationship between the public sector effect and the conflict intensity. In particular the coefficient in column (1) suggests that increasing the public wage bill by 1% is associated with an increase in the number of Palestinian fatalities by 6.4%. This is a substantially higher elasticity than in the West Bank, which may be related to both the greater reliance of Gaza on public sector employment and the larger number of fatalities as a share of the population in Gaza. The private wage bill effect is negative and significant at the 1% level. Unlike the public sector effect, this result confirms again

---

12 The insignificant effect of lagged fatality variables does not necessarily suggest that the cycle of violence per se is not related to violence intensity, contrary to what is documented by Jaeger and Paserman (2008) . The cycle of violence effect might be instantaneous or short lived, which cannot be captured using quarterly data.

13 We are inclined to rule out the possibility that this lack of effect may be due to the lower number of fatalities after 2004, as there was still substantial variation in the number of fatalities even after 2004.

the negative effect of employment typically associated with the opportunity cost.

Another difference vis-à-vis the West Bank is related to the unemployment effect, which is positive and significant in the case of Gaza, again in line with the opportunity cost hypothesis. Moreover, the cycle of violence hypothesis seems to find some support in the case of Gaza: the coefficient of the lagged number of Israeli fatalities is significant and positively related to subsequent number of Palestinian fatalities (Columns 2 and 3). On the other hand, the effect of lagged number of Palestinian prisoners and of Palestinian fatalities is not significant. The wage bill coefficients are robust to the inclusion of these additional controls. These results are robust to including the share of the district's support for violence against Israeli civilians (column 4) as well as to using fatalities of Palestinians taking part into the hostilities or demonstrations as dependent variable (column 5).

How can the positive effect of public wage bill on conflict intensity in both the West Bank and Gaza during the first Intifada be explained? To the best of our knowledge there is no strictly comparable finding in the literature, as this is the first study looking at the relationship between public sector employment and conflict. One possible explanation for our finding is the difference in attitude towards violent political activities between public and private sector employees. We rule out this explanation by running a simple linear probability model of individual attitudes towards peace negotiations with Israel on a public sector dummy and a series of individual controls. The results in table 4 suggest that public sector employees have no differential attitudes than those in other sectors.

The results during the second Intifada in West Bank and Gaza are consistent with the hypothesis that employment in the private sector may have raised somewhat the opportunity cost of engaging into political action while that did not apply to public sector employment. In order to explain this difference, we conducted interviews with former Palestinian prisoners (in Israeli jails). These interviews suggest that public sector employees did not lose their job nor their salary when arrested for participating in political activities during the second Intifada.[14] On the other hand the former prisoners we interviewed did not maintain their salary during the period in jail when the employer was a private firm (though some of them did so for a limited period). In addition the possibility of losing the job due to shirking to participate into demonstrations was substantially higher in the private than in the public sector.

These differences may help explain why the opportunity cost hypothesis may have worked in the case only of the private employees. However they do not explain why a higher public wage bill was associated with more intense violence during the second Intifada. While we do not have enough data to test explicitly for the mechanisms underlying this result, we suggest an explanation consistent with our results. In the context of high conflict intensity, such as during the second Intifada, grievances are acute and a large number of people would like to take part in the political action. However, such participation is conditional on satisfying the basic needs (e.g. food, shelter) of the family. If such basic needs are not satisfied, then the priority of the individual is to engage in gainful activities (rather than in political action) to cover these basic needs. As argued by Berman et al. (2009), in this case the political action is a 'normal good'. Public sector employment and consequently the public wage bill may have allowed the satisfaction of those needs at the margin in a context with minimal alternative sources of employment as during the second Intifada. For the private sector this effect was countervailed by the opportunity cost mechanism, which works in the opposite direction to the 'normal good' channel.

During periods of low intensity conflict, such as after 2004, the participation into political activity is much more limited, and changes in the wage bill (whether public or private) do not appear to change the incentives of political participation at the margin.

During the period of analysis, the public sector was the main source of primary employment in West Bank and even more so in Gaza, as labour, goods and services, and exports have been heavily restricted. Therefore, a substantial share of the wage bill in the other sectors is likely to be generated by the public sector wage bill via the multiplier effect. We think it is important to incorporate this indirect effect of the public wage bill on conflict. That is a relevant policy parameter as it provides evidence of how conflict intensity changes when modifying the size of the public wage bill. In order to do so, we run the same regressions for West Bank and Gaza as in table 2 (column 4) and table 3 (column 3), respectively but exclude the other sectors' wage bill and the unemployment rate variables. The public wage effect, as reported in Table A2 in the Appendix, is unaffected in the West Bank while it becomes insignificant in Gaza model. This finding suggests that the indirect effect of the public wage bill on conflict via the other sectors is marginal in the West Bank, while it neutralises the positive direct public wage bill's effect in Gaza.

Two stage estimation

Although the public and private sectors wage bill are lagged one quarter, to the extent that there is some persistence in the variables, the problem of endogeneity is likely to bias the estimated coefficient. In fact, the error terms would need to be uncorrelated with the public and private wage bill for all the quarters. We resort to a two

---

14 We undertook a series of interviews in the period March-April 2013 with a small sample of West Bankers who were arrested during the second Intifada by Israel with the charge of illegal political violent activity. The results are available from the authors upon request.

stage estimation using two distinct instrumental variables to address this endogeneity problem.

The first is a shift share instrument similar in spirit to Bartik (1991), Card (2007) and Moretti (2010). In the case of the public sector, in order to construct the instrument we divide the public sector employment into four distinct sub-sectors: administrative, health and education, security and others. For each district d and period q the instrument is constructed as the weighted average of the regional public wage bill (in region R, i.e. West Bank or Gaza depending on the district's locations), in which the weights are the shares of subsector *s* in district's total wage bill for measured in 1999, such that:

$$(2)$$

$$Wagebill_{dq}^{shift} = \sum_{S=1}^{4} \left(\frac{wagebill_{d99}^{S}}{wagebill_{d99}^{Tot}} \times [wagebill_{Rq}^{S} - wagebill_{dq}^{S}] \right)$$

In order to ensure exogeneity, the regional wage bill is purged of the district's own public wage bill in each quarter. This instrument captures the component of the change in the district's public wage bill due to the region-wide changes in the 4 sub-sectors on the basis of the district's own initial composition of the public wage bill.

We construct an analogous instrument also for the private wage bill by splitting the private sector into six macro-industries: agriculture; manufacturing; construction; commerce, hotels and restaurant; transport and communication; other services.

We are able to build also a second instrument for the public wage bill. This follows a similar mechanism to the shift-share but uses the district's allegiance to Fatah to predict the extent to which regional increases in the public wage bill may be captured by the district. The instrument is specified as follows:

$$(3)$$

$$Wagebill_{dq}^{fatah} = \frac{vote_{d96}^{fatah}}{vote_{d96}^{total}} \times (wagebill_{Rq} - wagebill_{dq})$$

The first term of equation (3) is the share of Fatah movement votes (loyalist to late President Arafat) in the 1996 legislation council election. The instrument should capture the component of public sector employment that may be allocated on the basis of political allegiance.

In the first stage estimation we regress both the public and private wage bill on these three instruments as well as all other explanatory variables specified in the full model.

In the case of the West Bank we also add the post-2004 interaction with the instruments to the list of excluded instruments in order to deal with the endogeneity of the post 2004-public and private wage bill variables. More formally we run the following first stage for the public sector wage bill:

$$(4)$$

$$PuW_{dq} = \mu_d + \alpha_1 Wagebill_{dq}^{shift} + \alpha_2 Wagebill_{dq}^{Fatah} + \alpha_3 Wagebill_{dq}^{shift} \times d_{2004} + \alpha_3 Wagebill_{dq}^{Fatah} \times d_{2004} + \sigma PrW_{dq} + \Theta X_{dq} + +\mu_d + \gamma_q + \eta_{dq}^{Pu} \quad (4)$$

Where d_{2004} is the post-2004 dummy. We also run a similar regression for the private sector wage bill using the instrument for the private wage bill described above.

Following Cameron and Trivedi (2013), we extract the estimated residual $\widehat{\eta_{dq}^{Pu}}$ and $\widehat{\eta_{dq}^{Pr}}$ from specification (4) and its counterpart for the private wage bill. Subject to the validity of the instruments, these residuals should capture the endogenous component of both public and private sector wage bills (Cameron and Trivedi, 2013). Therefore adding them in equation (1) would purge the endogeneity bias of these variables in the estimation, which then becomes:

$$(1')$$

$$f_{dq} = \mu_d + \beta PuW_{d(q-1)} + \phi PrW_{d(q-1)} + \Theta X_{dq} + \gamma_q + \widehat{\eta_{dq}^{Pu}} + \widehat{\eta_{dq}^{Pu}} + \epsilon_{dq}$$

This formulation ensures the computation of consistent standard errors (Cameron and Trivedi, 2013).[15]

Table 5 presents the results of the first stage estimation. Noteworthy, the coefficients of the shift share instruments are negative and significant in both the West Bank (columns 1-2 and 4-5) and Gaza (column 3). The district's public wage bill is negatively correlated to what would have been predicted based on the district's initial share. This negative correlation disappears after 2004 (column 1). This implies that when sub-sector S expands regionally, such expansion is disproportionately concentrated in those districts which had a low initial share of S relatively to the other sectors.

This result suggests that the public sector employment in the oPt followed (at least until 2004) redistributive principles across districts. This finding is consistent with Faggio and Overman (2012) for the UK.[16] Surprisingly, the Fatah instrument is also negative and significant in the West Bank (but not in Gaza) and in the post-2004 period it becomes positive (column 1). Importantly, the F-statistics for the excluded instruments is above conventional levels in both the West Bank and Gaza. Moreover, a comparison between columns (1) and (2) suggests that the full set of four

---

15 The estimated residual in the first stage is almost invariably not significant in the second stage thus the standard errors do not have to be computed through bootstrapping (Cameron and Trivedi, 2013).

16 In fact these authors use a different type of shift-share instrument, based on the location's initial share in total public sector employment. We try to employ this type of instrument as well obtaining similar results to those reported in both first and second stage (results available upon request).

instruments has a higher explanatory power than the two instruments without the post-2004 interactions. This result suggests that there may have been a change in the hiring strategy of the PA after 2004 possibly due to the change in the Palestinian leadership following Arafat's death. For this reason we use this full set also in the two stage model with only public wage bill as the endogenous regressor.[17]

Columns (4)-(6) present the first stage results for the private sector wage bill. As in the case of the public sector, the coefficient of the private shift share instruments suggests convergence in the private wage bill across districts during the second Intifada (column 4). Districts with larger initial shares of sectors that experienced subsequent faster growth exhibited a relatively slower growth in private wage bill and vice-versa. The F-statistic suggests that the power of the instruments is considerably lower for the private (column 4) than for the public wage bill (column 1). The instrument set for the private wage bill proves even less powerful when excluding the interactions between the instruments and the post-2004 dummy (column 5). Finally, no instrument appears significant in explaining the private wage bill in Gaza (column 6). For that reason we only instrument the public wage bill in the case of Gaza.

The results of specification (1'), presented in Table 6, largely confirm the base model results for West Bank. In particular, the public wage bill coefficient is positive although not significant at standard levels for the entire period (column 1), while it is positive and significant when including the post-2004 interactions with (column 2) or without private wage bill (column 3). The coefficients are similar in magnitude than in the previous regressions, suggesting that the endogeneity bias is not particularly large. In line with the findings in Table 2, the positive effect of the public wage bill for the West Bank disappears after 2004 (column 2). This differential effect between the two periods is strongly confirmed by the regressions in columns (4)-(5) as well by those using the fatalities of Palestinians participating into the hostilities or into demonstrations as dependent variable (columns 8-9).

The results for the private wage bill are slightly different to those in Table 2. The coefficient is not significant throughout the period (columns 1-3) and also when considered separately during and after the second Intifada (columns 4-5). The coefficient turns negative when using fatalities of Palestinians participating into the hostilities or into demonstrations as dependent variable in 2000-04 but it is measured with noise so it is not significant at standard levels (column 8). The absolute magnitude of the coefficient is larger than that of public sector wage bill and also of that in Table 2 but the estimation is noisy (the coefficient is significant only at the 15% level) probably due to the relatively low power of the instruments.

On the other hand neither public nor private wage bill are significant in the case of Gaza (columns 6-7) thus casting doubts on the effects of these variables in the strip. Through the public sector wage bill we can capture the overall effect of the public sector wage expenditures on the conflict intensity. There are two ways in which we can decompose this effect to learn more about its driving factors.

The first involves splitting the public wage bill into its two components, i.e. public employment and average wage. In particular we estimate the following:

$$(5)$$

$$f_{dq} = \alpha + \beta_1 PE_{d(q-1)} + \beta_2 PW_{d(q-1)} + \Phi L_{d(q-1)} + \Theta X_{dq} + \mu_d + \gamma_q + \varepsilon_{dq}$$

where PE is the (log of) number of employees and PW is (log of) the average daily wage for public sector employees. This decomposition is relevant as it tells us to what extent the decision to engage in political action depends on being employed or rather on the amount of salary earned. The results, reported in table 7, suggest that the former is what matters. The coefficient of the public employment is positive and significant at 1% level in both the West Bank (columns 1-2) and Gaza (column 3), while the average public wage effect is positive but insignificant, except when we include the post-2004 interaction, which makes the public wage mildly significant (column 2). Again, the differential slope of public employment in the second period is negative and similar in magnitude to the first period. This indicates that the public employment effect approaches zero after 2004.

In Gaza the coefficient of public employment becomes insignificant when excluding the other labour market variables (column 4). As in the case of public wage bill, this confirms that while the net effect of public sector employment on the conflict intensity is positive, its gross effect is not significantly different from zero.

The second decomposition involves splitting the public sector variables into security and other public sector occupations in order to purge the security variable of the "state capacity" effect. In fact the public wage bill variable so far lumps together civilian and security personnel. The latter category may have a distinct effect on violence vis-à-vis the former in at least two ways. On the one hand it may capture the Palestinian state ability to repress violent activities. This channel may play some role especially after the beginning of the coordination between the Israeli army and the PA security forces in 2005. On the other hand, the security forces are armed and an increase in security employment may be associated with an increase in arms' availability at the local level. To capture these types of mechanisms, we split the public wage bill into security and non-security.

The results are reported in Table 8. Column (1) shows that the positive public wage bill effect in the West Bank is

---

17 Results (available upon request) are also robust to using only 2 instruments instead.

driven by the non security wage bill effect, while the effect of the security wage bill is positive but insignificant. Again the positive effect of the non security wage bill disappears after 2004, while the security forces' effect remains insignificant even after 2004 (column 2). Consistently with the results in table 7, the positive wage bill effect of non security forces is driven by the employment rather than the wage effect (column 3). Interestingly, the daily wage of security forces appears to exert a negative and significant effect after 2004. This result suggests that increases in security forces' salaries during the period of cooperation with Israeli authorities may raise the ability of the Palestinian security personnel to quell the political activities of militants in the West Bank.

Conversely in the case of Gaza, it is mainly the security component of public sector employees which explains the positive effect of the public wage bill (column 5) and in particular the number of security employees rather than their wages (column 6). However, when we exclude other labour market variables, the security wage bill effect becomes insignificant consistently with the results in the previous tables.

Unfortunately we are unable to instrument satisfactorily the different parts of the public wage bill. When we tried to modify our instruments to adapt them to the decomposition, their power was too low to allow an adequate identification of the effects of the instrumented variables in the second stage.[18] However, to the extent that the endogeneity bias is relatively small as in the case of the public wage bill, these results provide at least some suggestive evidence of the underlying components of the public sector effects on conflict.

Other measures of conflict

While the number of Palestinian fatalities is our preferred measure of conflict intensity, as explained above, it is certainly not the only one. Another important dimension of the conflict, at least during the second Intifada, is the fatalities caused mainly by Palestinian suicide attacks in Israel. In this section we examine the extent to which the changes in public wage bill affect these Palestinian attacks against Israelis, measured as the total number of attacks, regardless of whether they have been successful (i.e. deadly). While correlated with the number of Palestinian fatalities, the Israeli attack measure accounts only for premeditated armed attacks mainly by Palestinian military factions. As in the Palestinian fatality models, we utilize the estimation techniques of negative binomial and IV negative binomial estimation and employ the same set of instruments. We also utilize the same model specification, except that the dependent variable is now the quarterly number of attacks originating from the Palestinian district.

The results of these estimations, reported in table 9, suggest that the public wage bill is not statistically associated with the number of attacks both in the West Bank (columns 1-4) and Gaza (column 5). This is the case also when considering the possible differential impact after 2004 in the West Bank (column 3-4), and when instrumenting the public wage bill variable (columns 4).[19] The lack of any significant effect applies also to the other sectors' labour variables, suggesting that economic motives, at least as far as employment is concerned, are not relevant in explaining Palestinian attacks inside Israel. This result is consistent with previous literature examining the identity of Palestinian suicide attackers (Benmelech et al., 2012).

---

18 Results available from the authors upon request.

19 Note that the variable could not be instrumented in the case of Gaza as the model did not converge.

5. Conclusions

Do the economic conditions of the local population influence conflicts? Affirmative answers to this question are often implicit in the attempts of domestic policy-makers and the international community to build the conditions for peace in conflict- affected countries. We have tried to address this question by providing the first systematic evidence on the impact of changes in the Palestinian public and private sector wage bill on conflict intensity in the 'second Intifada'. This analysis is important as the public sector has come to play a crucial role in sustaining an ailing economy especially during the second Intifada.

Our analysis provides mild support for the opportunity cost theory of conflict, i.e. gainful employment reduces the propensity in engaging into political violence. This mild support for the opportunity cost applies only to the private sector. On the other hand somewhat surprisingly districts in the West Bank and Gaza with larger increases in the public sector wage bill experienced relatively higher levels of conflict in the following quarter during the second Intifada. To explain why the opportunity cost theory does not apply to the public sector we have provided evidence that unlike private sector employees, public sector employees did not lose their salary when arrested by the Israeli security forces. In addition anecdotal evidence suggests that public but not private employees may have been able to shirk to engage in political activity.

Why was a higher public wage bill associated with more intense violence during the second Intifada? While we do not have enough data to test explicitly for the mechanisms underlying this result, we suggest an explanation consistent with our results. That is, in a context of generalized violence and intense grievances, a large number of people would like to engage in political activities but only those who can satisfy basic economic needs can do so. Public or private sector employment can increase at the margin the share of people who meet these basic needs. For the private sector this effect was countervailed by the opportunity cost mechanism making the effect of private wage bill on violence either not significant or negative. As the opportunity cost does not apply to the public sector, increases in the level of public wage bill were associated with higher levels of conflict during the second Intifada.

Interestingly, in Gaza the indirect negative effect of the public sector wage bill on conflict via the rest of the economy (i.e. by expanding the other sectors and reducing unemployment) neutralizes its positive direct effect. Therefore the overall gross effect of public sector wage bill on conflict intensity is insignificant in Gaza.

On the other hand the positive relation between public sector wage bill and conflict disappears after the end of the second Intifada in the West Bank and becomes not significant (while the analysis in Gaza is only until 2005). This result suggests that after 2004, a period of relatively low levels of violent political activities, the participation in political activity is confined to limited sections of the population, driven by specific issues, such as protesting land confiscation and political prisoners. In this context changes in public and/or private employment or wages do not appear to change the incentives of political participation and thus they exert no effect on violence.

The positive effect of the public wage bill in both the West Bank and Gaza is mainly driven by employment rather than wages and in the West Bank it is due to the non security employees, while the employment of security forces does not have an effect on conflict intensity. That is the case only until 2004. After that increases in security forces' average salaries are associated with a reduction in conflict intensity, consistently with the role played by the security cooperation between PA and Israeli forces in the West Bank after the second Intifada. Conversely in Gaza the positive direct effect of public wage bill on conflict is due mainly to the employment of the security forces.

Importantly, we also find that some of the factors linked to the development of grievances in the West Bank, including the construction of the security Wall and the arrests of Palestinians by Israel, are strongly associated with increases in conflict intensity. These factors continue to affect violence even in a period of relative quiet as the one after the second Intifada.

These findings challenge the importance of public employment opportunities – at least in the short-run - in keeping the population 'off the street' during periods of intense conflict or in its aftermath in the oPt. That does not necessarily apply to the periods before the conflict and in fact more research would be needed to identify to what extent economic shocks may trigger the eruption of the period of intense violence.

At the same time the results do not dispute the crucial role that the public sector has been playing in sustaining the Palestinian economy and in providing a much needed source of employment in a context with one of the highest unemployment rates in the world. Nonetheless the results in the paper do suggest that the public sector's role of maintaining the economy should not be conflated with the role of creating the conditions for peace. The latter objective does not seem to advance through the former. In fact the results suggest that there are other factors, for example related to the security measures implemented by Israel that have a direct bearing on the conflict. Resolving the conflict would require addressing primarily such factors.
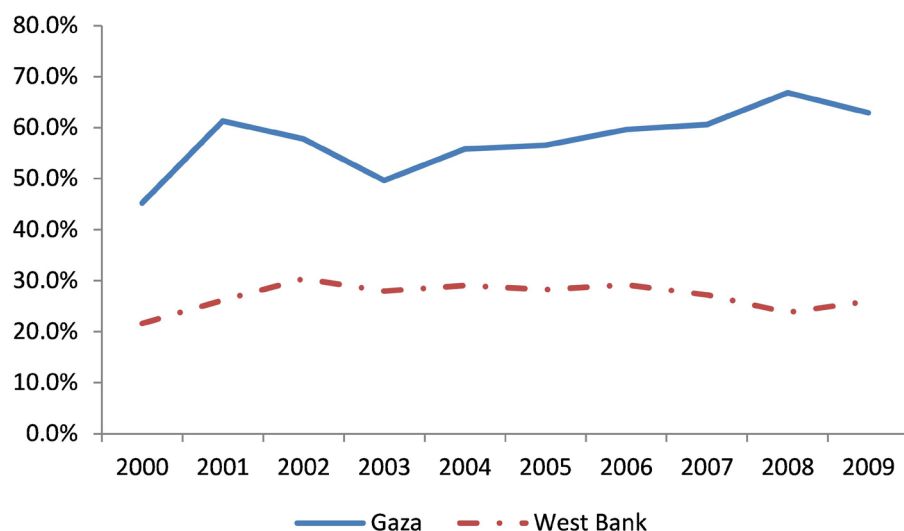
References

Angrist, J. and Kugler, (2008). Rural windfall or a new resource curse? Coca, income, and civil conflict in Colombia, *The Review of Economics and Statistics*, 90(2): 191-215.

Bartik, T.J. (1991). *Who Benefits from State and Local Economic Development Policies?*, Kalamazoo: Upjohn Institute Press.

Bazzi, S. and C. Blattman (2014). Economic Shocks and Conflict: Evidence from Commodity Prices, *American Economic Journal: Macroeconomics*, Vol. 6(4): 1-38.

Beath, A., F. Christia and R. Enikolopov (2011). Winning Hearts and Minds through Development Aid: Evidence from a Field Experiment in Afghanistan, CEFIR / NES Working Paper 166.

Becker, G. (1968). Crime and Punishment: An Economic Approach, *Journal of Political Economy,* 76: 169–217.

Bellows, J. And Miguel, E.A. (2009). War and local collective action in Sierra Leone, *Journal of Public Economics*, vol. 93 (11-12): 1144-1157.

Benmelech, E., C. Berrebi, and E.F. Klor (2012). Economic Conditions and the Quality of Suicide Terrorism. Journal of Politics, 74(1): 1-16.

Berman, E., J.N. Shapiro, and J.H. Felter (2009). Do Working Men Rebel? Insurgency and Unemployment in Iraq and the Philippines, NBER Working Paper Nr. 15547.

Berman, E., J.N. Shapiro, and J.H. Felter (2011). Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq, *Journal of Political Economy*, 119 (4): 766-819.

Berrebi, C. (2007). Evidence About the Link Between Education, Poverty and Terrorism Among Palestinians. *Peace Economics, Peace Science and Public Policy,* 13(1): Article 2.

Besley, T. and T. Persson (2008). The Incidence of Civil War: Theory and Evidence, NBER Working Paper No. 14585.

Blair, G., C.C. Fair, N. Malhotra and J.N. Shapiro (2012). Poverty and Support for Militant Politics: Evidence from Pakistan, American Journal of Political Science, forthcoming.

Blattman, C. and E. Miguel (2010). Civil War, *Journal of Economic Literature* 48(1): 3-57.

Bohlken, A.T. and E. Sergenti, (2010). Economic growth and ethnic violence: An empirical investigation of Hindu–Muslim riots in India, *Journal of Peace Research*, 47(5): 589–600.

Bruckner, M. and A. Ciccone (2010). International commodity prices, growth and the outbreak of civil war in sub-Saharan Africa, *The Economic Journal*, 120 (May), 519–534.

Calì, M. (2012). Economic options for a viable Palestinian state, paper prepared for UNDP.

Calì, M. and S. Miaari (2013). The labor market impact of mobility restrictions: Evidence from the West Bank, World Bank Policy Research Working Paper 6457.

Card, D. (2007). How Immigration Affects US Cities, CReAM Discussion Paper, No. 11/07.

Crost, B., J.H. Felter and P. Johnston (2012). Government Transfers and Civil Conflict Experimental Evidence from the Philippines, mimeo.

De Luca, G., J-F. Maystadt, P.G. Sekeris, J. Ulimwengu and R. Folledo (2012), Mineral Resources and Conflicts in the Democratic Republic of the Congo, IFPRI Discussion Paper 1193.

Do, Q.T. and L. Iyer (2010). Geography, poverty and conflict in Nepal, *Journal of Peace Research*, vol. 47(6): 735-748.

Dube, O. and J. Vargas (2013). Commodity price shocks and civil conflict: evidence from Colombia, *Review of Economic Studies*, 80(4): 1384-1421.

Greene, W.H. (2011). *Econometric Analysis*, Prentice Hall, Seventh Edition.

Gwande, K., D. Kapur and S. Satyanath (2012). Natural Resource Shocks and Conflict in India's Red Belt, mimeo.

Hidalgo, F.D., S. Naidu, S. Nichter and N. Richardson (2010). Economic determinants of land invasions, *The Review of Economics and Statistics,* 92(3): 505–523.

Holmes, R. et al. (2013). What is the evidence on the impact of employment creation on stability and poverty reduction in fragile states: A systematic review, Overseas Development Institute: London.

Jaeger, D.A. and M.D. Paserman (2008). The Cycle of Violence? An Empirical Analysis of Fatalities in the Palestinian-Israeli Conflict, *American Economic Review*, 98(4): 1591-1604.

Krueger, A.B., and D.D. Laitin (2008). Kto Kogo?: A Cross-Country Study of the Origins and Targets of Terrorism, in Keefer, P. and N. Loayza (eds) *Terrorism, Economic Development, and Political Openness,* Cambridge University Press.

Lin, Y-H and G. Michaels (2011). Do Giant Oilfield Discoveries Fuel Internal Armed Conflicts?, CEPR Discussion Paper No. 8620.

Long, J. S. and J. Freese (2006). *Regression Models for Categorical Dependent Variables Using Stata*, 2nd ed. College Station, TX: Stata Press.

Miaari, S. (2009). The Public-private Wage Differential in the West Bank and Gaza Before and During the Second Intifada, EUI Working Paper 2009/13.

Miaari, S., A. Zussman, and N. Zussman (2012). Employment Restrictions and Political Violence in the Israeli-Palestinian Conflict, Economics of Security Working Paper 59, DIW: Berlin.

Miguel, E., S. Satyanath and E. Sergenti (2004). Economic Shocks and Civil Conflict: An Instrumental Variables Approach, *Journal of Political Economy,* 112(4): 725-753.

Moretti, E. (2010). Local Multipliers, *American Economic Review Papers and Proceedings*, 100 (2): 1-7.

Palestinian Ministry of National Economy (MoNE) and ARIJ (2011), *The economic costs of the Israeli occupation for the occupied Palestinian territory*, Ramallah and Bethlehem.

Saleh, B.A. (2009). An Econometric Analysis of Palestinian Attacks: An Examination of Deprivation Theory and Choice of Attacks, *European Journal of Social Sciences*, 7(4), 17-29.

Sayigh, Y. (2007) Inducing a Failed State in Palestine, *Survival*, 49(3): 7 – 39.

Sayre, E.A. (2009). Labor Market Conditions, Political Events, and Palestinian Suicide Bombings, *Peace Economics, Peace Science and Public Policy*, 15(1), pp. 1-26.

Vuong, Q.H. (1989). Likelihood Ratio Tests for Model Selection and non-nested Hypotheses, *Econometrica*, 57 (2): 307–333.

World Bank (2002). West Bank and Gaza: An Evaluation of Bank Assistance, Report No. 23820, Washington, DC.

Figures and Tables

Figure 1: Share of public sector in wage employment, 2000-09

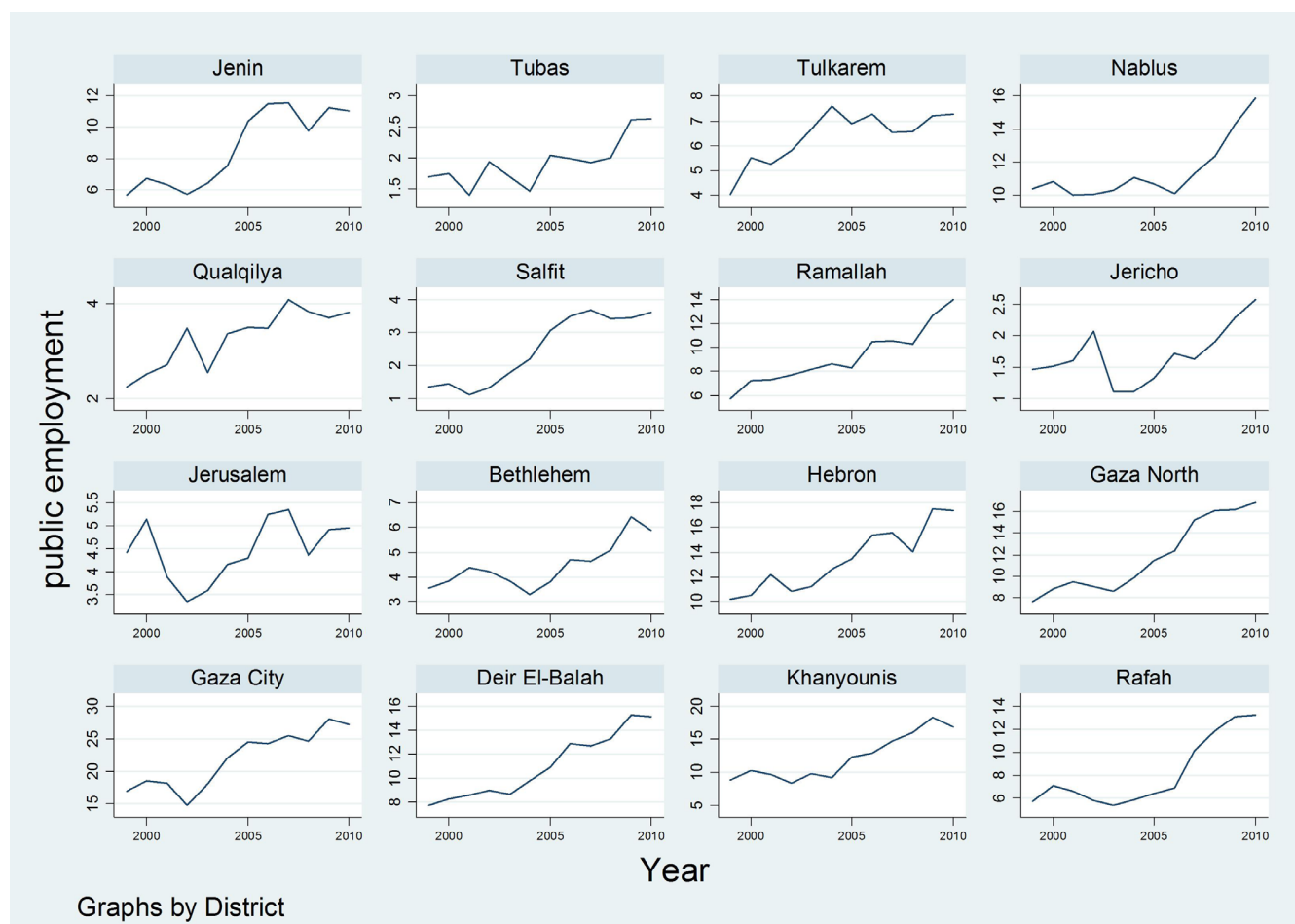

Source: PCBS

Figure 2: Balance of Payment, oPt, 2000-09 (constant million USD)
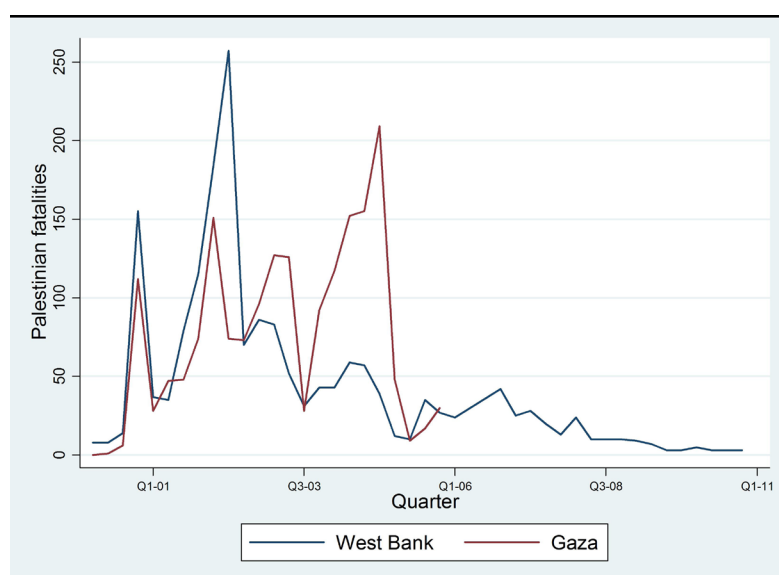

Source: Palestinian Central Bureau of Statistics

Figure 3: Public sector employment by district (in '000)

Source: Authors' elaboration on data from the Palestinian Central Bureau of Statistics

Figure 4: Palestinians killed by Israel in the West Bank and Gaza, 2000-10

Source: B'tselem

Table 1: Summary Statistics for key Variables

	West Bank*					Gaza Strip**				
	Obs.	Mean	SD	Min	Max	Obs.	Mean	SD	Min	Max
Palestinian Fatalities	451	4.03	7.82	0	85	100	17.83	16.01	0	80
Palestinian Fatalities due to demonstrations	451	1.29	2.45	0	21	100	6.95	8.85	0	54
Israeli and Palestinian Fatalities	451	5.97	11.75	0	116	100	19.55	16.91	0	80
Israeli Fatalities	451	1.94	5.11	0	48	100	1.72	2.86	0	15
Palestinian Arrested	451	521	396	0	1614	100	105	38	37	208
Male	451	0.5	0.01	0.46	0.54	100	0.51	0.01	0.48	0.53
Married	451	0.55	0.03	0.47	0.64	100	0.56	0.03	0.49	0.63
Age 15-40	451	0.72	0.02	0.66	0.78	100	0.74	0.01	0.71	0.77
Schooling	451	9.34	0.57	7.44	10.98	100	9.49	0.33	8.69	10.26
Proportion of Refugees	451	0.28	0.12	0.02	0.62	100	0.68	0.16	0.41	0.87
Proportion of Refugees Residing in Camps	451	0.08	0.07	0	0.48	100	0.36	0.18	0.09	0.66
Unemployment among Refugees (%)	451	6.11	3.25	0	17.44	100	20.42	5.97	10.51	40.78
Total Unemployment Rates (%)	451	27.4	8.56	9.41	57.31	100	42.48	7.53	24.58	64.58
Israeli Settlements within ten km of the Districts Capital	451	2.42	3.02	0	13.01					
Checkpoints within 30 Minutes	363	1.37	0.84	0	3.41					
West Bank Wall (km)	451	18.89	20.76	0	86.24					
Average Number of Public Sector Employees	451	6,261	4,384	758	19,083	100	10,737	4,860	4,179	26,069
Average Daily Wage of Public Sector Employees	451	74.24	16.99	48.7	304.02	100	59.59	5.17	49.62	70.38
Average Number of Private Sector Employees	451	29,722	22,971	2,221	123,676	100	18,538	10,285	5,845	47,143
Average Daily Wage of Private Sector Employees	451	83.17	18.07	37.5	151.34	100	56.63	6.88	38.58	74.2
Average Daily Wage in Labour Force	451	50,003	36,814	5,273	178,555	100	50,675	22,452	25,006	99,138

Source: Authors' elaboration using different data set; see text for details. Notes: See Table 1A for variables' description.

* Sample period from the outbreak of the Second Intifada (28.9.2000) until 2010.

** Sample's period from the outbreak of the Second Intifada (28.9.2000) until August 2005

Table 2: The Effect of Public and Private Sector Wage Bill on Violence in the West Bank

Dependent variable:	Total Palestinian Fatalities							Pal. Fat. in demo	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Period	2000-10	2000-10	2000-10	2000-10	2000-04	2005-10	2000-10	2000-10	2000-04
(log) Public Sector Wage Bill (t-1) (A)	0.492***	0.497***	0.515***	0.558***	0.531***	0.564	0.586***	0.428*	0.538**
	(0.137)	(0.137)	(0.137)	(0.140)	(0.140)	(0.468)	(0.160)	(0.233)	(0.260)
(log) Private Sector Wage Bill (t-1)	0.102	0.172	0.093	0.067	-0.075	0.491	0.079	-0.299	-0.655**
	(0.173)	(0.181)	(0.175)	(0.176)	(0.172)	(0.489)	(0.197)	(0.332)	(0.314)
(log) Public Sector Wage Bill (t-1) x Post-2004 (B)				-0.427			-0.548	-0.466	
				(0.288)			(0.365)	(0.431)	
(log) Private Sector Wage Bill (t-1) x Post-2004				0.206			0.086	0.486	
				(0.263)			(0.339)	(0.390)	
Palestinian Fatalities (t-1)		0.006	0.008	0.007	0.003	0.023	-0.002	-0.009	-0.016
		(0.005)	(0.005)	(0.005)	(0.005)	(0.028)	(0.006)	(0.010)	(0.013)
Israeli Fatalities (t-1)		0.002	0.002	0.002	-0.001	-0.036	0.017**	0.013	0.011
		(0.007)	(0.006)	(0.006)	(0.006)	(0.045)	(0.008)	(0.010)	(0.012)
Palestinian Prisoners (t-1)			0.001***	0.001***	0.001***	0.000	0.001**	0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Unemployment Rate (t-1)	0.003	0.005	-0.001	-0.001	-0.005	0.008	-0.002	-0.010	0.001
	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.023)	(0.012)	(0.015)	(0.019)
West Bank Wall (km)	0.018***	0.018***	0.019***	0.019***	0.009**	0.058***	0.015**	0.017***	0.005
	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.011)	(0.006)	(0.006)	(0.010)
Support armed attacks against Israeli civilians (t-1)							-0.600		
							(0.515)		
Observations	451	451	451	451	187	264	197	451	187
F-stat for (A)+(B)=0				0.2			0.01	0.01	
Wald test	958.65	963.65	978.95	1000.6	494.47	143.22	369.66	280.01	124.8
Nr. of districts	11	11	11	11	11	11	11	11	11

*Notes: All regressions include district fixed effects, round effects, and a series of district-wide controls including the proportion of males in the labour force, the proportion of married individuals, the proportion of the labour force in the 15-40 age range, the average number of years of schooling of the labour force, the proportion of refugees in the labour force and the proportion of refugees living in refugee camps, the proportion of unemployed refugees and the number of Israeli settlers within 10 Km from the district's capital. See Table A1 for the definitions of the independent variables. The regressions are estimated through the conditional Negative Binomial model. Robust standard errors (Huber-White method) clustered at district level in parentheses; The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.*

Table 3: The Effect of Public Sector Wage Bill on Violence in Gaza

Dependent variable:	Total Palestinian Fatalities				Pal. Fat. in demo
	(1)	(2)	(3)	(4)	(5)
(log) Public Sector Wage Bill (t-1)	1.125**	1.356***	1.302***	1.353**	2.745***
	(0.459)	(0.466)	(0.451)	(0.563)	(0.610)
(log) Private Sectors Wage Bill (t-1)	-1.514***	-1.697***	-1.781***	-2.450***	-1.827**
	(0.511)	(0.522)	(0.507)	(0.557)	(0.725)
Palestinian Fatalities (t-1)		-0.001	-0.000	0.001	-0.007*
		(0.004)	(0.004)	(0.004)	(0.004)
Israeli Fatalities (t-1)		0.036**	0.034**	0.022	0.049**
		(0.015)	(0.015)	(0.016)	(0.020)
Palestinian Prisoners (t-1)			-0.006	-0.024***	0.007
			(0.006)	(0.007)	(0.006)
Unemployment Rate (t-1)	0.061**	0.063***	0.057**	0.022	0.070**
	(0.025)	(0.024)	(0.024)	(0.026)	(0.032)
Support armed attacks against Israeli civilians (t-1)				-1.727*	
				(0.979)	
Observations	100	100	100	65	100
Wald test	183.22	196.85	214.42	280.42	287.79
Nr. of Districts	5	5	5	5	5

Notes: All regressions include district fixed effects, round effects, and a series of district-wide controls including the proportion of males in the labour force, the proportion of married individuals, the proportion of the labour force in the 15-40 age range, the average number of years of schooling of the labour force, the proportion of refugees in the labour force and the proportion of refugees living in refugee camps, the proportion of unemployed refugees. See Table A1 for the definitions of the independent variables. The regressions are estimated through the conditional Negative Binomial model. Robust standard errors (Huber-White method) clustered at district level in parentheses; the symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Table 4: Public employees and attitudes towards the conflict, West Bank and Gaza

	(1)	(2)	(3)	(4)
	West Bank		Gaza	
Public sector dummy	0.017	0.010	0.013	0.010
	(0.020)	(0.021)	(0.029)	(0.031)
Public sector dummy x post-04		0.073		0.041
		(0.052)		(0.038)
Observations	8,457	8,457	5,235	5,235
R-squared (within)	0.029	0.03	0.053	0.053
Number of districts	11	11	5	5

Notes: All regressions include district fixed effects, round effects, and a series of individual-wide controls including male dummy variable, marital status, dummies for two age cohorts 15-29 and 30-44, refugee dummy, rural area / refugee camp residence, a set of educational dummies. The district-wide controls including unemployment rates in the preceding quarter, district's length of the West Bank wall, and average of settlement's population within ten Km from the district's capital. The regressions are estimated through the linear probability model. Robust standard errors (Huber-White method) clustered at district level in parentheses. The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Table 5: First stage results, West Bank and Gaza

Dependent variable:	Public sector wage bill			Private sectors wage bill		
	(1)	(2)	(3)	(4)	(5)	(6)
	West Bank		Gaza	West Bank		Gaza
Shift Share Public Wage Bill	-0.0035***	-0.0017***	-0.0022*	-0.0005	-0.0003	-0.0002
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Fatah share Public Wage Bill	-0.0005**	-0.0000	-0.0002	-0.0005*	0.0000	-0.0007
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Shift Share Public Wage Bill x post-2004	0.0018***			0.0003		
	(0.000)			(0.000)		
Fatah share Public Wage Bill x post-2004	0.0003**			0.0003**		
	(0.000)			(0.000)		
Shift Share Private Wage Bill	0.0000	-0.0000	0.0001	-0.0004**	-0.0003*	-0.0008
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Shift Share Private Wage Bill x post-2004	-0.0001			0.0001		
	(0.000)			(0.000)		
Observations	451	451	100	451	451	100
R-squared	0.819	0.766	0.832	0.815	0.796	0.880
F- stat for instruments	42.71	17.35	14.48	3.94	2	9.21
Nr. of Districts	11	11	5	11	11	5

Notes: All regressions include district fixed effects, round effects, and the other controls as in column (4) of Tables 2 and 3. The regressions are estimated through fixed effect OLS method. Robust standard errors (Huber-White method) clustered at district level in parentheses; The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Table 6: Second stage results, West Bank and Gaza

Dependent variable:	Total Palestinian Fatalities							Pal. Fat. in demo	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	2000-2010			2000-04	2005-10	2000-05		2000-04	2005-10
	West Bank			West Bank		Gaza		West Bank	
(log) Public Wage Bill (t-1) (A)	0.412	0.581*	0.514**	0.621**	0.053	0.320	-0.052	0.811	-0.191
	(0.295)	(0.334)	(0.231)	(0.287)	(0.788)	(0.781)	(0.520)	(0.545)	(1.175)
(log) Private Wage Bill (t-1)	0.159	0.014		-0.068	-1.116	1.588		-1.057	-3.386
	(0.552)	(0.607)		(0.491)	(2.251)	(1.080)		(0.816)	(3.689)
(log) Public Sector Wage Bill (t-1) x Post-2004 (B)		-0.701	-0.315						
		(0.770)	(0.293)						
(log) Private Sectors Wage Bill (t-1) x Post-2004		0.402							
		(0.722)							
Labour market controls	YES	YES	NO	YES	YES	YES	NO	YES	YES
Other controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	451	451	451	187	264	100	100	187	240
F-stat for (A)+(B)=0		0.19	0.21						
Wald test	980.56	1002.32	992.14	505.4	149.95	264.46	128.05	123.99	82.96
Nr. of Districts	11	11	11	11	11	5	5	11	10

Notes: All regressions include district fixed effects, round effects, and a series of controls (other controls) as in Table 2 column (4) for West Bank and Table 3, column (3) for Gaza. They also include the estimated residuals from Table 5. See Table A1 for the definitions of the independent variables. Labour market variables include (log) of other sectors' wage bill, its interaction with post-2004 dummy and unemployment rate lagged one quarter. The regressions are estimated through the conditional Negative Binomial model. Standard errors clustered at district level in parentheses. The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Table 7: Separating the employment and wage effects

	West Bank		Gaza	
	(1)	(2)	(3)	(4)
(log) Public Sector Employees (t-1)	0.654***	0.824***	1.407***	-0.213
	(0.189)	(0.210)	(0.457)	(0.352)
(log) Public Sector Daily Wage (t-1)	0.189	0.352*	1.262	-0.174
	(0.203)	(0.206)	(1.258)	(1.574)
(log) Public Sector Employees (t-1)* Post-2004		-0.807**		
		(0.375)		
(log) Public Sector Daily Wage (t-1)* Post-2004		-1.646		
		(1.049)		
Labour mkt controls	YES	YES	YES	NO
Observations	451	451	100	100
Wald test	999.92	1047.9	281.27	127.59
Nr. of Districts	11	11	5	5

Notes: All regressions include district fixed effects, round effects, and a series of controls as in Table 2 column (4) for the West Bank and Table 3, column (3) for Gaza. See Table A1 for the definitions of the independent variables. Labour market variables include (log) of other sectors' wage bill, its interaction with post-2004 dummy and unemployment rate lagged one quarter. The regressions are estimated through the conditional Negative Binomial model. Robust standard errors (Huber-White method) clustered at district level in parentheses. The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Table 8: The effects of security and non security public employment

	West Bank				Gaza		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wage Bill security (t-1)	0.115	0.081			0.861**		0.156
	(0.070)	(0.069)			(0.371)		(0.458)
Wage Bill non security (t-1)	0.370**	0.512***			0.539		-0.272
	(0.144)	(0.156)			(0.392)		(0.356)
Wage Bill security (t-1) x post-2004		0.200					
		(0.182)					
Wage Bill non security (t-1) x post-2004		-0.658**					
		(0.279)					
Security Public Employment (t-1)			0.171	0.099		0.975***	
			(0.107)	(0.112)		(0.355)	
Security Public Daily Wage (t-1)			0.064	0.238		-1.043	
			(0.220)	(0.255)		(1.124)	
Non-Security Public Employment (t-1)			0.391**	0.627***		0.429	
			(0.166)	(0.182)		(0.429)	
Non-Security Public Daily Wage (t-1)			0.199	0.147		1.546**	
			(0.285)	(0.318)		(0.744)	
Security Public Employment (t-1)*Post-2004				0.174			
				(0.211)			
Security Public Daily Wage (t-1)*Post-2004				-1.570**			
				(0.793)			
Non-Security Public Employment (t-1)*Post-2004				-0.966***			
				(0.323)			
Non-Security Public Daily Wage (t-1)*Post-2004				-0.193			
				(0.931)			
Observations	451	451	451	451	100	100	100
Wald test	979.87	1019.48	1010.27	1055.14	220.26	307.31	128.61
Nr. of Districts	11	11	11	11	5	5	5

Notes: All regressions include district fixed effects, round effects, and a series of controls as in Table 2 column (4) for the West Bank and Table 3, column (3) for Gaza. See Table A1 for the definitions of the independent variables. Labour market variables include (log) of other sectors' wage bill, its interaction with post-2004 dummy and unemployment rate lagged one quarter. The regressions are estimated through the conditional Negative Binomial model. Robust standard errors (Huber-White method) clustered at district level in parentheses. The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Table 9: The effects of public wage bill on attacks in Israel

Dependent variable: Palestinian Attacks by District					
	West Bank				Gaza
	(1)	(2)	(3)	(4)	(5)
(log) Public Sector Wage Bill (t-1)	0.136	0.056	0.072	-1.396	-1.528
	(0.370)	(0.379)	(0.381)	(1.862)	(2.483)
(log) Public Sector Wage Bill (t-1) x Post-2004		1.409	1.446		
		(1.082)	(1.091)		
(log) Private Sectors Wage Bill (t-1)	-0.028	0.004	0.011	0.927	-0.255
	(0.416)	(0.423)	(0.429)	(2.756)	(2.524)
(log) Private Sectors Wage Bill (t-1) x Post-2004		-0.623	-0.611		
		(1.041)	(1.038)		
Public wage bill instrumented	NO	NO	NO	YES	NO
Observations	410	410	410	410	100
Nr. of Districts	10	10	10	10	5

Notes: All regressions include district fixed effects, round effects, and a series of controls as in Table 2 column (4) for the West Bank and Table 3, column (3) for Gaza. See Table A1 for the definitions of the independent variables. Specification in column (4) includes also the estimated residual from Table 5. The regressions are estimated through the conditional Negative Binomial model. Robust standard errors (Huber-White method) clustered at district level in parentheses. The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.

Annex: Additional Tables

Table A1: Variables' Description

Variable	Description
Palestinian Fatalities	Average Quarterly Fatalities from politically-motivated violence (Palestinians killed by Israelis) in District. For Palestinian fatalities, the district is the district where the fatal wounding occurred. There are a handful of cases in which the fatal wounding occurred inside Israel. In those cases, we considered the district of residence of the attacker, or the closest geographical district.
Israeli Fatalities	Average Quarterly Fatalities from politically-motivated violence (Israelis killed by Palestinians) in District. For Israeli fatalities in the territories: we took the district in which the fatal wounding occurred. For Israeli fatalities in Israel, we considered the district of origin of the attacker. In cases where the attacker is unknown, we assumed it was the closest district to where the attack took place.
Palestinian Arrested	Average Quarterly Palestinians detained in Israeli jails in District.
Male	Proportion of males out of total working age in District.
Married	Proportion of married individuals out of total working age individuals in District.
Age 15-40	Proportion of individuals ages 15-40 out of total working age individuals in District.
Proportion of Refugees	Proportion of refugees out of the total working age population in District.
Proportion of Refugees Residing in Camps	Proportion of refugees living in camps out of the total working age population in District.
Israeli Settlements within ten km of the Districts Capital	Average number of Israeli settlements within ten Km from the district's capital, weighted by the inverse of their distance.

Table A2: The Effect of Public Sector Wage Bill on Violence in West Bank and Gaza (without labour market controls)

	(1) West Bank	(2) Gaza
(log) Public Sector Wage Bill (t-1)	0.567***	-0.212
	(0.130)	(0.348)
(log) Public Sector Wage Bill (t-1) * Post-2004	-0.247	
	(0.169)	
Observations	451	100
Wald test	990.4	127.56
Nr. of Districts	11	5

Notes: All regressions include district fixed effects, round effects, and all of the district-wide controls included in Table 2, column 4 for West Bank and Table 3, column 3 for Gaza, except the other sector's wage bill and the unemployment rate, are excluded. See Table A1 for the definitions of the independent variables. The regressions are estimated through the conditional Negative Binomial model. Robust standard errors (Huber-White method) clustered at district level in parentheses; The symbols *,**, *** represent statistical significance at the 10, 5, and 1 percent levels.