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Security, Trade, and Political Violence*

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Abstract:

To address security concerns, governments often implement trade barriers and restrictions on the movement of goods and people. These restrictions have negative economic consequences, possibly increasing the supply of political violence. To test this hypothesis, we exploit the restrictions imposed by Israel on imports to the West Bank as a quasi-experiment. In 2008 Israel started enforcing severe restrictions on the import of selected dual-use goods and materials, de facto banning a number of production inputs from entering the West Bank. We show that after 2008 (i) output and wages decrease in those manufacturing sectors that use those materials more intensively as production inputs, (ii) wages decrease in those localities where employment is more concentrated in these sectors, and (iii) episodes of political violence are more likely to occur in these localities. Our calculations suggest these effects account for 18% of the violent political events that occurred in the West Bank from 2008 to 2014.

JEL codes: D22, D24, F51, N45, O12.

Keywords: security, trade, political violence.

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1 Introduction

Issues of security and trade dominate the current political debate, and these issues are often interlinked. States routinely implement restrictions on trade that are motivated by security reasons. For example, since the "Black Hawk Down" incident in 1993 that brought an end to a military intervention, the US has continuously banned exports of arms and any related material to Somalia and imports of charcoal from Somalia.[1] Similarly, China recently issued a lengthy list of products and technologies banned from export to North Korea, fearing their possible use in building weapons of mass destruction.[2] These types of trade restrictions are all but uncommon. Indeed, every major power regulates trade of specific products and technologies that are *dual-use*, that is, produced for both civilian and military purposes, imposing barriers or tracking their mobility across countries.

While the security argument behind these trade restrictions is straightforward, their implementation may not be. Trade barriers negatively affect the economy and its efficiency (Ethier 1982; Melitz 2003). By reducing average income, trade restrictions reduce the opportunity cost of engaging in political violence and increase grievance among the population (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Miguel, Satyanath, and Sergenti 2004; Blattman and Miguel 2010; Dube and Vargas 2013; Longo, Canetti, and Hite-Rubin 2014; Blattman and Annan 2016). As a result, security-motivated trade policies can increase threats to security. The extent to which this happens will depend on the interaction between the nature of the implemented restrictions and the production structure of the affected economies.

This paper asks whether security-motivated trade restrictions have negative economic consequences, and their implications for political violence. To answer this question, we exploit the restrictions imposed by Israel on imports to the West Bank. For security reasons, in 2008 Israel issued a list of dual-use goods and materials subject to severe import restrictions, de facto banning a number of production inputs from entering the West Bank. We frame the issuance of such a list as a quasi-experiment, and provide three sets of results. First, we use information pertaining to more than 30,000 establishments in the years 1999 to 2012, and show that output and wages decrease differentially after 2008 in those manufacturing sectors that use dual-use materials more intensively

[1] https://www.treasury.gov/resource-center/sanctions/Programs/Documents/somalia.pdf [consulted on May 25, 2016].

[2] http://www.ft.com/cms/s/0/2db21280-2515-11e3-bcf7-00144feab7de.html#axzz49Zsrijna [consulted on May 24, 2016].

as production inputs. Second, we track the evolution of labor market outcomes at the locality level. Using Labor Force Survey data, we show that local labor market conditions worsen differentially in those localities where a higher share of workers is employed in dual-use input intensive industries.

Third, we link worsening labor market conditions to the evolution of political violence from 1999 through 2014. We use geo-referenced information on episodes of political violence to show that these are differentially more likely to occur after 2008 in those same West Bank localities where economic activity is highly dependent on dual-use materials as inputs. Importantly, we show that the effect of the de facto ban on political violence includes major episodes, such as assassinations and killings, and that new fighters were drawn into the conflict as a result of economic hardship. We also find that these violent acts target both Israelis and Palestinians. This suggests that the policy had also a destabilizing effect on the West Bank and its government.[3]

To identify these effects, we adopt a difference-in-differences strategy. We derive our measures of intensity in dual-use inputs and employment concentration using the US input-output matrix and employment data from the 1997 Palestinian Census respectively as benchmark economies, and compare the evolution of economic and political outcomes over time across sectors and localities according to these baseline measures. To validate our approach to identification, we implement a number of robustness checks and placebos. In particular, we perform the same empirical analysis using observations on sectors and localities in the Gaza Strip, which during the period of the analysis was under an Israeli-imposed full embargo. We therefore expect the dual-use list to have no differential effect on the economy and political violence in the Gaza Strip. Results from this placebo test show that we cannot reject this hypothesis.

Our results provide evidence of a causal path from the issuance of the dual-use list to political violence. Although our research design prevents us from assessing what the overall level of violence would have been in the absence of the policy, our analysis shows direct evidence of a specific mechanism which materializes through the negative impact of the list on industrial production and local labor markets. According to our estimates, this mechanism accounts for a 4.5% loss in the total value of industrial output and for 17.6% of all events of political violence that occurred in the West Bank in the period 2008 to 2014. Our study highlights the trade-offs and interlinkages between

[3]In this respect, our results are in line with those in Longo, Canetti, and Hite-Rubin (2014). They show that, by reducing the feeling of humiliation in the Palestinians, the elimination of the IDF-imposed mobility restriction in the Occupied Palestinian Territories makes the population less likely to support to violence against Israel. While we identify an economic mechanisms rather than a psychological one, both results point to the possibility that security measures may in fact increase violence.

security and trade issues, suggesting the need for an integrated policy approach.

This paper speaks to several streams of research. First, our paper contributes to a large unsettled debate on the effect of economic conditions on conflict and terrorism. While some theoretical models link the state of the economy to political violence (Bueno de Mesquita 2005, 2008; Rosendorff and Sandler 2010), several empirical studies find weak or no correlation between poverty and terrorism or conflict (Atran 2003; Krueger and Malecková 2003; Krueger and Laitin 2008; Berman, Callen, Felter, and Shapiro 2011; Benmelech, Berrebi, and Klor 2012). In particular, the results in Blair, Christine Fair, Malhotra, and Shapiro (2013) and Fair, Littman, Malhotra, and Shapiro (2016) challenge the conventional wisdom and find that poverty is negatively correlated with support for militant organizations.

A second set of contributions exploits variation in international prices to study how economic shocks impact conflict (Brückner and Ciccone 2010; Do and Iyer 2010; Berman and Couttenier 2015; Berman, Couttenier, Rohner, and Thoenign 2014). Importantly, Dube and Vargas (2013) and Bazzi and Blattman (2014) investigate how these effects are heterogeneous depending on the type of commodity. Our results are in line with those from this body of research, but with an important difference. While providing often ideal exogenous shocks, changes in international commodity prices are determined by the interaction of demand and supply at the global level, with little role for government intervention. On the contrary, trade restrictions are widely implemented policy tools over which governments have direct control.

Finally, we contribute to the vast literature on the relationship between trade and conflict (Mansfield 1994; Oneal, Oneal, Maoz, and Russett 1996; Gartzke 1998; Mansfield and Pevehouse 2000; Gartzke, Li, and Boehmer 2001; Oneal and Russett 2001; Bussmann and Schneider 2007; Martin, Thoenig, and Mayer 2008a,b; Schneider 2007). While this burgeoning literature has produced an important empirical effort to determine whether economic interdependence and conflict are correlated, previous studies have not paid sufficient attention to the causal mechanisms at play. To the best of our knowledge, this is the first paper to provide a close examination of the microfoundations linking barriers to trade to political violence.

2 Background

The economy of the Occupied Palestinian Territory (OPT) has always been strictly dependent on the Israeli one. In 2006, just after the end of Second Intifada, Israel was the main trade partner of the OPT, with around 70% of Palestinian imports coming from Israel. At the same time, almost 15% of Palestinian workers were commuting daily to jobs in Israel. Given this strict dependence, it is not surprising that the security measures put in place by the Israeli Defense Force (IDF) (such as border closures, internal mobility restrictions, and increased controls for Palestinian imports and export at ports and borders) have a significant impact on the OPT economy (PALTRADE 2010; Calí and Miaari 2013; Amodio and Di Maio 2017). This is the case for both the West Bank and the Gaza Strip. After Hamas' victory in the 2006 elections, Israel imposed a complete blockade on the latter from 2007 to 2010. Since then, the two territories have started to diverge in economic and political terms (Etkes and Zimring 2015).

Among the security-motivated measures adopted by the Israeli government, the enforcement of the dual-use list is of particular importance. Dual-use goods are goods, services, or technologies that are intended for civilian use, but also have military applications. As such, trade of dual-use items is subject to particular restrictions. The control of the export, transit, and brokering of dual-use items and of the technologies to manufacture them is a key instrument contributing to international peace and security and is regulated by several international treaties.[4] These derive from international obligations (UN Security Council Resolution 1540, the Chemical Weapons Convention, and the Biological Weapons Convention) and are in line with commitments agreed upon in multilateral export control regimes.[5]

Israeli restrictions on the use and transfer of certain dual-use chemicals to the OPT were first introduced in 1976. The violence outbreak during the Second Intifada (2000-2006) led Israel to limit access to chemicals even further. In 2004, the Israeli Parliament enacted a more intrusive decree that, in addition to chemicals and fertilizers, restricted the transfer of dual-use materials, machinery, and equipment. The list was further expanded in 2006 to include a wider range of telecommunications equipment. However, it was not until the Defense Export Control Law of 2007 (5766-2007) that the exact nature of these restrictions and their enforcement were given a proper regulatory frame-

[4]These are the Wassenaar Arrangement , the Australia Group, the Nuclear Suppliers Group, and the Missile Technology Control Regime (MTCR).

[5]http://ec.europa.eu/trade/import-and-export-rules/export-from-eu/dual-use-controls/ [consulted on May 15, 2016].

work and became systematic. The corresponding bill was adopted and enacted by the Israeli Parliament on December 31, 2007. As part of this law, an official dual-use list was approved by the Israeli Ministry of Defense. The list includes 56 items.[6]

The entry of the materials included in the dual-use list is strictly monitored by the Trade and Industry Department of the Civil Administration (TIDCA). The control system requires Palestinian importers to obtain a license in order to import items included on the dual-use list.[7] The license application process must be repeated for every truckload of a dual-use item, even for the same category of imports. The average time to receive a license is from a minimum of four weeks up to eight weeks, and each license lasts 21 days (TIDCA 2012). It follows that, while formal authorization to import dual-use items can be obtained, the process is extremely burdensome and slow, implying that, in effect, the goods are banned (ARIJ 2010).

The Israeli dual-use list for the West Bank and Gaza is unusually extensive as compared to the internationally agreed one. The list includes chemicals, fertilizers, raw materials for industry, steel pipes, lathe and milling machines, optical equipment, and navigation aids. Anecdotal evidence indicates that most Palestinian industries are affected by the dual-use list, especially food and beverages, pharmaceuticals, textiles, information technology, agriculture, and metal processing (World Bank 2013).[8]

A few examples help illustrate the negative impact of the dual-use list on the manufacturing sector. National Aluminum and Profile Company (NAPCO) is a leading industrial aluminum firm. Before the dual-use list was issued, NAPCO was exporting about ten truckloads of aluminum to Israel on a monthly basis. Due to the trade restrictions imposed on imports of industrial inputs essential for aluminum anodizing (oxidizations) and nitration, NAPCO was forced to complete the required processing steps in Israel. As a result, it faced large extra costs per shipment.[9] To compensate for these extra costs of transportation and processing, NAPCO was under pressure to either reduce its output or reduce labor costs, i.e. cut wages. Pal Karm Company for Cosmetics is a leading industrial cosmetics Palestinian firm. It produces both for the

[6]See the Appendix for the full list of items. The list is excerpted from the Defense Export Control Order 2008 (Controlled Dual-Use Equipment Transferred to Areas under the Palestinian Authority Jurisdiction), last updated on August 2, 2009. Minor amendments were made to this list between 2009 and 2012.

[7]Some other items are officially banned from import to both the West Bank and the Gaza Strip, such as the aforementioned glycerine and lathe machines (PALTRADE 2010).

[8]The following two cases are taken from "The Economic Costs of the Israeli Occupation for the Occupied Palestinian Territory," a bulletin published by the Palestinian Ministry of National Economy in cooperation with the Applied Research Institute Jerusalem (ARIJ) in 2011.

[9]Extra costs of every 400 kg of shipment are estimated at NIS 25,800 for aluminum anodizing and NIS 6,464 for nitration.

local and Israeli market. The dual-use list banned the import of glycerine, an essential input for the production of cosmetics. Since then, Pal Karm has not able to sell skincare products in Israel because the Israeli Health Authorities require glycerine to be part of such products. Between 2008 and 2010, the company estimates a 30% drop in exports of glycerin-based products to Israel.

3 Conceptual Framework

In choosing whether or not to engage in political violence, individuals weigh and equate the marginal benefit and cost of doing so. Negative economic shocks affect individuals' payoff and their decisions in two ways. First, negative economic shocks decrease the opportunity cost for individuals of engaging in political violence (Becker 1968; Grossman 1991; Hirshleifer 1995; Collier and Hoeffler 1998; Bueno de Mesquita 2005, 2008; Rosendorff and Sandler 2010; Dal Bó and Dal Bó 2011). Participating in conflicts comes at a cost. One component of this cost is the probability of being arrested multiplied by the loss associated with the corresponding punishment. Another component is the opportunity cost. Individuals engaging in political violence give up earning opportunities in the formal economy. Therefore, each individual will decide to engage in political violence as long as the payoff from doing so is higher than the one she would obtain upon entering the labor market. It immediately follows that a drop in wages increases the likelihood that individuals engage in political violence.

Second, negative economic shocks alter the perceived benefits of violence. This is a standard grievance story (Azam and Hoeffler 2002; Kalyvas 2006; Collier and Hoeffler 2004; Valentino, Huth, and Balch-Lindsay 2004; Lyall, Blair, and Imai 2013). According to this argument, individuals experience the negative impact of the dual-use list on their own income and, more generally, see negative economic consequences on their community. As a result of this reduction in welfare, individuals develop strong grievances against the Israeli government and thus see greater value in the (perceived) benefits of using violence than they would in the absence of negative economic shocks.

These two mechanisms are complementary and point to the same effect. Both a reduction of the opportunity cost of engaging in political violence and an increase in its benefits lead to an increase in the supply of political violence. This puts forward a simple testable hypothesis: a decrease in wages increases the individual likelihood of engaging in political violence and the proportion of the population willing to take action.

4 Data and Measurement

Firms In the first part of the analysis, we study the impact of the dual-use list on the manufacturing sector in the OPT. The data belong to the Palestinian Industry Survey, a yearly survey of a representative sample of Palestinian establishments in the manufacturing sector (PCBS). Our sample is a repeated cross-section of 33,000 establishments surveyed in both the West Bank and the Gaza Strip over the years 1999 to 2012. Importantly, the data provide information on the ISIC 4-digit sector of economic activity to which each establishment belongs.[10] We are thus able to aggregate the establishment-level data at the 4-digit sector and track the evolution of output, prices, and wages in each sector over time. Our final sample contains information on more than 100 manufacturing sectors over the years 1999 to 2012.

A crucial component of our empirical analysis is a measure capturing the extent to which each manufacturing sector relies on dual-use inputs in production. In order to rule out any concern about endogeneity, we take the US economy as the benchmark, and compute such dual-use input intensity measure using the information available from the Bureau of Economic Analysis (BEA).

We start by identifying, for each product in the dual-use list, its corresponding 10-digit Foreign Trade Harmonized (HS) code. This is the finest product-level classification available in trade, allowing us to identify almost every item in the dual-use list as a separate 10-digit product. As a second step, we use the BEA correspondence table and link the HS codes to the 2002 Input-Output Commodity (IO) codes. We can then use the Input-Output matrix, and calculate for each commodity i its intensity in dual-use inputs as

$$d_i = \frac{\sum_j b_j \, v_j}{\sum_j v_j} \tag{1}$$

where v_j is the value of input j that is directly and indirectly required to deliver a dollar of the commodity i to final users, while b_j is an indicator equal to one if any of the dual list items belongs to the input j commodity code. d_i is equal to the fraction of dual-use inputs used to deliver one dollar unit of commodity i: the higher is the value of dual-use inputs in production, the higher is d_i. We then assign 4-digit ISIC codes to each commodity i, and finally calculate the intensity in dual-use inputs for sector s by

[10] This information is not available for the year 2011, so we do not include establishments surveyed in that year in our final sample.

taking the average of d_i across all commodities within each 4-digit sector s, meaning

$$m_s = \frac{1}{n_s} \sum_{i \in s} d_{is} \tag{2}$$

where n_s is the number of commodities i delivered by sector s. The value of m_s is between 0 and 1 by construction. Table 2 shows a list of the bottom and top 10 sectors according to our measure of dual-use input intensity.

Local Labor Markets As a second step, we focus on the labor market, and derive a measure of local employment concentration in dual-use input intensive industries. We do so by combining the measure m_s of dual-use input intensity at the sector level with information on the composition of employment in each locality in the OPT. Once again, we need to rule out the possibility that our measure is itself affected by the issuance of the dual-use list. We thus consider as benchmark the composition of employment in each locality as recorded in the 1997 Population Census. This is three years prior to the beginning of the Second Intifada, and a period of relative peace that followed the Oslo agreement of 1993. We regard the distribution of economic activity across localities in that year as exogenous to the conflict that followed, and the issuance of the dual-use list eleven years later.

We use a confidential version of the 1997 Population Census that contains information on the sector of employment of each individual in the census.[11] This information is available for 570 localities in the West Bank and the Gaza Strip. We calculate our locality-level measure of intensity in dual-use inputs as

$$m_l = \sum_s \frac{L_s^l \, m_s}{L^l} \tag{3}$$

where L^l is the total number of workers in locality l in 1997, and L_s^l is the number of workers operating in sector s in the same locality in the same year. m_s is our previously derived measure of intensity in dual-use inputs at the sector level. m_l is higher if a larger share of workers in locality l is employed in 1997 in those sectors that are more intensive in dual-use inputs.

To track the evolution of local labor markets across localities, we use Labor Force Survey data for the years 1999 to 2012. The original micro data do not provide infor-

[11] This information is provided at the ISIC 2-digit sector instead of the ISIC 4-digit sector. We use data from the Industry Survey from 1999 - which is the last survey before the conflict - to calculate an employment-weighted measure m_s of intensity in dual-use inputs of each 2-digit sector.

mation on the locality of residence of the respondent. We overcome this limitation, we access a confidential version that aggregates data at the locality-year level. We have information on the average daily wage earned by (employed) respondents in the locality, the average number of working days in a month, the number of employed and unemployed respondents, plus those out of the labor force.[12]

Political Violence We derive our measure of political violence at the locality level from the Integrated Crisis Early Warning System (ICEWS) dataset (Shilliday, A. and J. Lautenschlager 2012). Prepared by the Lockheed Martin Advanced Technology Laboratories, these data have been recently made publicly available and cover the period from 1995 to 2015. The dataset records any event of interaction between socio-political actors (i.e., cooperative or hostile actions between individuals, groups, sectors, and nation states). Each entry provides information on the source and target of each interaction. Events are assigned to specific categories using the Conflict and Mediation Event Observations (CAMEO) classification (Schrodt and Yilmaz 2007). Additionally, each of these categories is assigned an *intensity* variable using a scale from -10 to 10 (from most hostile to most cooperative). Events are automatically identified and extracted from news articles, geo-referenced and time-stamped accordingly.

We build our panel dataset of political violence at the locality level as follows. We keep all events geo-referenced between 1999 and 2014 in the OPT and classified as *hostile*, meaning having intensity value from -10 to -1 (inclusive). We then classify each category as violent or non-violent.[13] To capture all and only events of political violence caused by Palestinian civilians, we exclude all those events where the government or related entities (such as the Palestinian police) are identified as the source. We also keep only events where the target country is either the OPT or Israel. Our final dataset counts 19,982 events of political violence between 1999 and 2014 in the OPT (10,519 events targeted Palestinians). The most frequent event types are: use of unconventional violence (29%), fighting with small arms and light weapons (21%), and use of conventional military force (12%). To provide a better sense of this outcome, Table A.10 in the Appendix summarizes the frequency of the ten most common event types for the entire sample, for events targeting the Palestinians, and for events targeting Israel. The most frequent identified sources of events are citizens (16%), militants (13%), and armed gangs (12%). We geographically match each event to the closest Palestinian location,

[12]The sum of employed, unemployed, and out of the labor force individuals gives the total number of surveyed individuals in each locality in each year. We divide the latter by the size of the locality population reported in the 1997 Population Census to derive sampling probabilities.

[13]See the Appendix for the details of our classification.

and sum them at the locality and year level. This allows us to track the evolution of political violence in each locality over time.

Finally, with the objective of building a proxy for the demand for political violence in each given location, we geo-reference each checkpoint, observation tower, and road-block within the West Bank in each year. We collect these data using the maps made available by the United Nations - Office for the Coordination of Humanitarian Affairs (UN-OCHA). Consistent information is available from 2004 to 2012.[14]

5 Empirical Strategy

Our approach to identification is a *difference-in-differences*. We compare the evolution of economic and political outcomes across sectors or localities according to their intensity in dual-use inputs, and test whether systematic differences emerge after the issuance of the dual-use list in 2008.

The first step in implementing this strategy is to derive baseline measures of dual-use input intensity that are exogenous to the changes in the economic and political environment that occurred in the period under consideration. The measures at the sector (m_s) and locality (m_l) level that we derived in the previous section fulfill this requirement. They are calculated using the US in 2002 and the OPT in 1997 respectively as benchmark economies, and thus do not vary over time. This rules out from the start any concern that variation in these measures is itself informed by the issuance of the list.

The identifying assumption of our difference-in-differences is that, had the list not been issued, the evolution of economic and political outcomes would have not been systematically different after 2008 across sectors and localities that are differentially intensive in dual-use inputs. The first concern with our strategy is these different localities could have already been on a differential path before 2008. As we discuss later, Figures 2, 3, and 4 show direct evidence that the level of wages and the number of episodes of political violence were not significantly different before 2008 across sectors and localities that are differentially intensive in dual-use inputs. This is true for any given year before 2008, ruling out the concern that pre-existing differences in trends across units may confound our analysis.[15]

[14] Maps are available on the UN-OCHA website https://www.ochaopt.org/.

[15] To address this concern further, we also include in our regression specification linear and quadratic trends at the levels of both sector and locality.

A second concern with our identification strategy is that our measures of dual-use input intensity could be correlated with other characteristics at the sector or locality level which could account for a differential trend in economic and political outcomes after 2008. In particular, dual-use input intensive sectors could also be more intensive in foreign inputs in general, or be more export oriented. If that was the case, our measure m_s would be capturing not only the extent to which each sector is impacted by the list, but also heterogeneity in exposure to trade shocks in general (the 2008 Great Recession being one of them). We address this concern by deriving two measures of trade intensity. We calculate foreign input intensity f_s by dividing the total value of foreign-produced materials used in production in each sector by its total value of output in 2000 (the first year for which separate information on foreign-produced materials is available in the data). Likewise, we calculate export intensity e_s by dividing the total value of external sales in each sector by its total value of output in 2000. The correlation of m_s with f_s and e_s is equal to 0.07 and 0.14 respectively, both insignificant. Evidence thus shows that variation in dual-use input intensity does not overlap with variation in trade exposure at the sector level, validating our approach to identification. Similarly, Figure 1 shows the geographical distribution of employment concentration in dual-use input intensive industries at the locality level. We do not identify any particular geographical pattern, meaning that we do not find those localities with a higher concentration of employment in dual-use input intensive industries to be clustered in particular areas. Perhaps more importantly, Table A.2 in the Appendix shows that the measure of intensity is also uncorrelated with a number of baseline locality-level characteristics which could confound our analysis.

A third concern with our identification strategy is that the exact composition of the dual-use list could have been informed by specific strategic considerations. The Israeli government motivated the issuance of the list with internal security reasons (see Defense Export Control Order 2008). By limiting access to inputs needed to produce weapons, the list is expected to increase the cost of political violence. Importantly, our argument leads to the opposite prediction. We argue that, as a result of the list, output and wages decrease relatively more in those industries that use dual-use materials as inputs, decreasing the opportunity cost of political violence. In this respect, the concern that the list is primarily issued for internal security reasons would go against our reasoning and make it harder to find any positive impact of the list on political violence.

It could also be the case that the composition of the dual-use list was motivated by economic considerations. On the one hand, the Israeli government could have chosen the list of goods subject to import restrictions with the objective of hurting specific

sectors of the OPT economy that were either on the rise or declining. On the other hand, the composition of the list could have been engineered to curtail more severely the economy of those areas where political violence was more prevalent or on the rise (Benmelech, Berrebi, and Klor 2010). But, the available evidence rules out the presence of differential changes in both economic outcomes across sectors and in political violence across localities in the years prior to the issuance of the list and according to their intensity in dual-use inputs.

A final concern with our empirical strategy is that political violence may not be independent across localities. Specifically, violence perpetrators may travel from one locality to another, or strategically coordinate their actions. This legitimate concern is less compelling in the case of the West Bank, where mobility is limited (Abrahams 2015; World Bank 2007). Still, we explicitly address this concern by including spatial lags in our empirical analysis and by restricting our attention to those events that were unlikely to be planned or coordinated.[16]

6 Results

6.1 Sectors and Firms

We start by comparing the evolution of economic activity across sectors according to their production intensity in dual-use inputs. We implement the following regression specification

$$y_{st} = \delta_t + \gamma_s + \beta\, m_s \times \textit{Post2008}_t + u_{st} \tag{4}$$

where y_{st} is the outcome of sector s in year t. Year fixed effects δ_t capture and control for overall trends in economic activity. Sector fixed effects γ_s capture time-invariant differences across sectors. Our variable of interest is the interaction term, where m_s is the sector-level measure of intensity in dual-use inputs and $\textit{Post2008}_t$ is a dummy equal to one for all observations belonging to year 2008 and after. u_{st} accounts for all residual determinants of the outcome. We cluster standard errors at the sector level in order to take into account the possibility of serial correlation of residuals within sectors. Our coefficient of interest is β: it captures whether differences in production intensity

[16] In Table A.11 in the Appendix we report information on some violent episodes that were covered by the press. Information was gathered using Lexis-Nexis and Factiva. The last column on the right shows that several violent episodes were spontaneous and not planned, making more likely that they happened in localities in which perpetrators lived.

in dual-use inputs map systematically into differences in sector-level outcomes, and differentially so after the implementation of the dual-use list in 2008.

Table 3 shows the corresponding coefficient estimates using data from the West Bank. In the first column, the dependent variable is the log of the value of output. The estimate of β is negative and significant at the 5% level. Evidence shows that those sectors that are more intensive in dual-use inputs experience a differential loss in output value after the issuance of the list. The estimate is such that moving from the 25^{th} to the 75^{th} percentile of our measure of intensity in dual-use inputs (from value 0.014 to 0.17) leads to an 11% differential loss in output value. In the second column, we restrict our sample to those sectors for which we have price information available, finding very similar results. We do this in preparation for the results in columns (3) and (4), where we use as dependent variable the log of the price index at the sector level, and physical output as given by the ratio between output value and the price index. The coefficient of interest in the price regression is positive but insignificant, suggesting that the elasticity of demand in the affected sectors is very high. It follows that, when having physical output as dependent variable in column (4), the estimate of β is negative, significant at the 5% level and comparable to the one in column (1). Finally, in column (5), we use the log of wages paid in each sector as dependent variable. The estimate of β doubles in magnitude. This means that moving from the 25th to the 75th percentile of our measure of dual-use input intensity leads to a 22% differential fall in wages.

Evidence shows that those sectors that are highly intensive in dual-use inputs pay differentially lower wages after 2008. Our claim is that this is the result of the issuance of the dual-use list. If this is the case, we should not observe any difference in wage patterns according to intensity in dual-use inputs in the years prior to 2008. Figure 2 plots the estimated coefficients of the interaction of the dual-use input intensity measure m_s with the full set of year dummies from the years 2002 to 2012.[17] Consistent with our hypothesis, we do not see any significant differential trend in wages paid in dual-use input intensive sectors before 2008.[18] The differential negative effect of the list is highest in 2009 and 2010, and becomes insignificant in 2012. One possible explanation for this result is that the list also has an impact on the extensive margin, and that by 2012 those firms within sectors with the highest intensity in dual-use inputs were forced out of business.[19] Another explanation is that firms learned how to cope and overcome the

[17] As explained in Section 4, we exclude the year 2011 from our analysis as no information on the ISIC 4-digit sector of activity is available for that year.

[18] Table A.1 in the Appendix also shows that including linear and quadratic sector-specific trends does not affect the results.

[19] We are unable to estimate firm's exit since our firm-level data is not a panel.

restriction by changing their production technology.

In Table 4, we include as regressors the measures of foreign input intensity f_s and export intensity e_s, both interacted with the *Post2008*$_t$ dummy. We do so to control for and net out any differential change across sectors according to their trade intensity. The estimated coefficient of our variable of interest $m_s \times$ *Post2008*$_t$ remains highly significant. This indicates that the differential loss in output and wages that we observe in dual-use input intensive industries is not related to generic trade-related shocks, but is the result of the issuance of the dual-use list. A somewhat related concern is that the restrictions imposed on imports of dual-use materials could increase the internal demand for dual-use inputs and thus benefit dual-use input producers in the West Bank. If *output* and *input* intensity in dual-use materials were negatively correlated across sectors, our estimates in Table 3 could be capturing a differential positive effect of the banning on dual-use *output* intensive sectors rather than a differential negative effect on dual-use *input* intensive sectors. But, the correlation between output and input intensity in dual-use materials in our data is positive, equal to 0.92 and highly significant. This rules out the possibility that our estimates are capturing a positive differential effect of the dual-use list on dual-use output intensive sectors.[20]

Given that a strict overall blockade was enforced in the Gaza Strip from 2007 to 2010, we have no reason to believe that intensity in dual-use inputs should be correlated with a differential evolution of economic outcomes in this region after 2008. As such, testing for an impact of the dual-use list on economic activity in the Gaza Strip works as a placebo exercise. Table A.4 in the Appendix shows coefficient estimates when restricting the sample to the Gaza Strip. None of them is significant. In the case of wages, the point estimate is both insignificant and small in magnitude. This further corroborates the validity of our approach to identification of the impact of the dual-use list in the West Bank.

Taken all together, results from this section show that the issuance of the dual-use list has a negative impact on the economic activity of those sectors in the West Bank that are more intensive in dual-use inputs. With our estimates in hand, we can calculate the percentage loss in aggregate output value attributable to the policy. Setting the value of the coefficient of interest equal to zero, we predict the value of output in each sector that we would have observed in absence of the dual-use list. We find that, in the West

[20] We calculate our measure of output intensity in dual-use materials by identifying every item in the dual-use list as a separate 10-digit HS product code. We then consider all commodities to which any of these dual-use product codes belong, and calculate dual-use output intensity as the share of these dual-use commodities i within each 4-digit sector s. When we replace m_s with this measure, results are the same (available upon request).

Bank, the dual-use list policy accounts for a 4.5% loss in aggregate output value in the period 2008 to 2012.

6.2 Labor Market Outcomes

To analyze the effect of the dual-use list on local labor markets, we implement the following regression specification

$$y_{lt} = \delta_t + \gamma_l + \beta\, m_l \times \textit{Post2008}_t + u_{lt} \tag{5}$$

where y_{lt} is the outcome of locality l in year t. Year and locality fixed effects - δ_t and γ_l - net out overall trends and time-invariant differences across localities respectively. Our variable of interest is again the interaction term, where m_l is the locality-level measure of intensity in dual-use inputs, and $\textit{Post2008}_t$ is a dummy equal to one for all observations belonging to year 2008 and after. u_{st} captures residual differences across localities and years. We again take into account the serial correlation of residuals over time by clustering the standard errors at the locality level.

We first consider as outcome the average daily wage in the locality. Given that our *treatment* is at the locality level, and the outcome variable is averaged across surveyed employed individuals in the locality, we can recover individual-level estimates by weighting each locality observations with the number of employed respondents in the locality.[21] Table 5 reports the corresponding coefficient estimates. Column (1) shows the estimate of β from the baseline, negative but only significant at the 12% level.

To improve on estimate's precision, we control for the composition of employment across macro-industries (agriculture, manufacturing and construction, services). To the extent to which the issuance of the dual-use list does not lead to reallocation of labor across macro industries in the short term, these employment shares are valid controls. They account for part of the residual variation in average daily wages, thus improving the precision of our estimate. Indeed, the estimate of β in column (2) becomes significant at the 5% level. In column (3), we include quadratic locality-specific trends. The estimate becomes bigger in magnitude and significant at the 10% level. In column (4), we control for the presence of checkpoints, observation towers, and roadblocks within 0.05 degrees (5.5 km approximately) from the locality. As shown by Abrahams (2015), these obstacles inhibit labor mobility and thus have an independent effect on

[21] As anticipated in Section 4, we further adjust weights to take into account sampling probabilities.

wages. The estimate of β is close to the one in column (2), and is still significant at the 10% level. Finally, in column (5) we replace the log of average daily wage as dependent variable, showing qualitatively similar results. Figure 3 plots the coefficients of the dual-use input intensity variable interacted with year dummies: the pattern of estimates' significance mirrors exactly the one of wages across sectors depicted in Figure2.

The estimate in Table 5 imply that moving from the 25^{th} to the 75_{th} percentile of the locality-level measure of intensity in dual-use inputs (from value 0.004 to 0.045) leads to a 1% differential decrease in average daily wages. While this appears to be a small effect, it considers only the first moment of the wage distribution. The previous section shows that the effect of the dual-use list on wages is concentrated among individuals who are employed in dual-use input intensive industries. Ignoring labor reallocation, a 22% decrease in wage for 4.5% of the workforce yields an average change of 1%, consistent with the results in this section. As for sectors, Table A.3 in the Appendix shows that there is no evidence of systematic differences in wages after 2008 across localities in the Gaza Strip.

Tables A.5 and A.7 in the Appendix report estimates from the same specification as in equation 5, but focus on other labor market variables as outcome. They show some evidence of an increase in unemployment and a decrease in average monthly days of work after 2008 in localities where employment is more concentrated in dual-use input intensive industries. Although the sign of coefficient estimates is consistent across specifications (unlike those for the Gaza Strip in Tables A.6 and A.8), these are rarely significant. Still, we interpret this as suggestive additional evidence that local labor market conditions worsen differentially in dual-use input intensive localities in the West Bank after 2008.

6.3 Political Violence

In the last step of our analysis, we test for the effect of the dual-list on political violence. We compare localities over time, and implement the same specification as in equation 5, but replacing as outcome y_{lt} the total number of events of political violence in the locality in the year.

Table 6 shows the corresponding estimates. In column (1), we implement the baseline specification where only locality and year fixed effects are included, together with the interaction variable of interest. The estimated coefficient of the latter is positive and significant at the 5% level. Its magnitude slightly increases when we include quadratic

locality-specific trends in column (2), still significant at the 5% level. As we did for wages, in column (3) we include as controls the number of checkpoints, observations towers, and roadblocks in the vicinity of the locality. These variables are meant as proxy for the demand for political violence in the location and its surroundings. The estimate of β remains significant at the 1% level. In column (4), we explicitly take into account the count nature of the dependent variable, and implement a fixed-effects poisson regression estimation. The estimated coefficient of the interaction variable of interest is still significant at the 1% level. Finally, in column (5), we replace the log of number of events (augmented by 1) as dependent variable, obtaining qualitatively similar and significant results.

Evidence shows that episodes of political violence are differentially more likely to occur after 2008 in those localities where employment is more concentrated in dual-use input intensive sectors.[22] Figure 4 shows no evidence of a differential pattern before 2008. Perhaps more importantly, and in contrast with the evidence on economic outcomes, the differential effect on violence persists well after 2010. This suggests that the negative economic shock induced by the dual-use list have a long-lasting impact on violence. This is compatible with the presence of a *lock-in* effect: people engaging in violence and outlaw activities may find it hard to re-access the formal labor market, even after negative economic shocks have been absorbed.[23] Alternatively, the persistent effect of the list on violence could indicate a self-reinforcing cycle: Palestinians attack, Israelis respond in retaliation, and new Palestinian attacks follow.

According to the estimated coefficient in column (1) of Table 6, moving from the 25^{th} to the 75^{th} percentile of our measure of intensity leads to a 0.07 increase in the number of violent events per year, an 8% increase over the mean. Estimates in Figure 4 show that this number increases to almost 22% between 2009 and 2011, when the average number of events per locality is lower. We can use our estimates to also calculate the total fraction of events of political violence that occurred between 1999 and 2014 that can be attributed to the dual-use list policy. Setting the value of the interaction term equal to zero, we can predict the number of events per locality in each year that we would have observed if the dual-use list had never been implemented, and the trend in political violence had never diverged across localities after 2008. Our estimates (based on the results in column (1) of Table 6) imply that these effects of the dual-use list policy account for 17.6% of the total number of violent events in the West Bank in

[22] The significant effect in 2008 indicates that individuals are engage in political violence in anticipation of future economic hardship.

[23] For studies showing the long-term effect of economic recessions on individuals' behavior and attitude, see Giuliano and Spilimbergo 2014

the period 2008 to 2014.

Robustness Checks, Effect Heterogeneity and Additional Results As it was the case for economic outcomes, Table A.9 and Figure A.1 in the Appendix show that the list has no differential effect on political violence across localities in the Gaza Strip. However, the point estimates in Figure 4 for 2006 and 2007 for the West Bank may raise doubts about the presence of pre-existing trends in those two years. To address this concern, we restrict our sample to the years prior to 2008, and replace as main regressor of interest the interaction between the locality-level measure of dual-use input intensity m_l and a dummy taking value 1 for year 2006 and 2007. Table A.10 in the Appendix shows that the corresponding coefficient estimates are never statistically significant at conventional levels. This rules out further the possibility that systematic differential changes were already present before 2008.

Our main argument has additional testable implications. If the negative economic shock induced by the dual-use list is responsible for the differential increase in political violence, we should expect the effect to be still significant when restricting the attention to violence perpetrated by new fighters, i.e. individuals who have not engaged in violence before. To this end, we consider only those violent acts from individuals with no affiliation to political parties or religious groups or criminal gangs and with no history of being dissidents or protestors (13,882 episodes in our sample). Figure A.2 in the Appendix shows that violence perpetrated by new fighters increases differentially in dual-use input intensive localities after 2008.[24]

Violence in one locality may be affected by economic conditions in neighboring localities. We examine the relevance of this issue by including in our main regression specification the spatial lag of our independent variable. That is, we include as additional regressor the average dual-use input intensity in the n localities that are closest to the one of observation, interacted with the $Post2008_t$ dummy. Table A.11 in the Appendix shows that the estimates of our coefficient of interest are not affected.

Evidence also shows that the effect of the dual-use list on political violence is significant for both the most and the least hostile events. The former include killings, assassinations, suicide attacks, and fighting with conventional military force. This indicates that the policy does not induce substitution away from high-intensity violence towards

[24]This result also mitigates the concerns that violent acts are centrally planned and their location strategically chosen. Indeed, individuals that do not belong to organized groups, e.g. Hamas, are less likely to centrally coordinate their actions with others.

low-intensity one, but rather increases both. The effect is also significant when considering Israeli and OPT targets separately. This suggests that the policy has a destabilizing effect on the West Bank, possibly weakening the authority of the Al-Fatah government and its line of dialogue with Israel. We report all these additional results in Figures A.3, A.4 and A.5 in the Appendix.

7 Conclusion

This paper tested the hypothesis that security-motivated trade restrictions can fuel political violence. We showed that the import restrictions of dual-use goods and materials imposed by Israel on the West Bank in 2008 led to lower output and wages for those sectors that use those materials more intensively as production inputs. Local labor market conditions worsened differentially in those localities where employment is concentrated in these sectors, and episodes of political violence were more likely to occur in those same localities.

Our findings are policy relevant in that they reveal the conditions under which trade-related security policies can increase the supply of political violence. When assessing the external validity of our results, the following considerations apply. First, our argument and results focus on labor as the most important input in the generation of violence. Economic hardship leads to more violence through an opportunity cost and/or grievance mechanism, whose salience depends on the production structure of economy. However, this is not necessarily the case if a significant amount of resources other than labor (such as capital) are used in generating violence, as the availability of these other inputs may decrease when economic conditions deteriorate. Second, our research design compares sector and localities that were all affected by the policy, but to different extents. It is therefore unsuitable to produce an overall assessment of the aggregate benefits and costs of the dual-use policy. Still, it sheds light on a specific mechanism that operates through the negative impact of the list on industrial production and local labor markets. Finally, the choice of the OPT as a case study has the advantage of providing a very tough test for the main hypothesis. Indeed, Israel has one of the most efficient and effective armies in the world, with a long experience in military controlling a territory. We therefore speculate that the salience of our argument would be even higher in countries with average military capabilities.

References

Abrahams, A. (2015). Hard Traveling: Commuting Costs and Welfare in the Second Palestinian Uprising. mimeo.

Amodio, F. and M. Di Maio (2017). Making Do With What You Have: Conflict, Input Misallocation and Firm Performance. *Economic Journal*. forthcoming.

ARIJ (2010). Economic cost of occupation for Palestine. Technical report, The Ministry of National Economy and ARIJ.

Atran, S. (2003). Genesis of Suicide Terrorism. *Science 299*, 1534–1539.

Azam, J.-P. and A. Hoeffler (2002). Violence against Civilians in Civil War: Looting or Terror? *Journal of Peace Research 4*(39), 461–85.

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

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

Benmelech, E., C. Berrebi, and E. F. Klor (2010). The Economic Cost of Harboring Terrorism. *Journal of Conflict Resolution 54*(2), 331–353.

Benmelech, E., C. Berrebi, and E. F. Klor (2012). Economic conditions and the quality of suicide terrorism. *The Journal of Politics 74*(1), 113–128.

Berman, E., M. Callen, J. H. Felter, and J. N. Shapiro (2011). Do Working Men Rebel? Insurgency and Unemployment in Afghanistan, Iraq, and the Philippines. *Journal of Conflict Resolution 55*(4), 496–528.

Berman, N. and M. Couttenier (2015). External Shocks, Internal Shots: The Geography of Civil Conflicts. *The Review of Economics and Statistics 97*(4), 758–776.

Berman, N., M. Couttenier, D. Rohner, and M. Thoenign (2014). This mine is mine! How minerals fuel conflicts in Africa. *American Economic Review*. forthcoming.

Blair, G., C. Christine Fair, N. Malhotra, and J. N. Shapiro (2013). Poverty and Support for Militant Politics: Evidence from Pakistan. *American Journal of Political Science 57*(1), 30–48.

Blattman, C. and J. Annan (2016). Can Employment Reduce Lawlessness and Rebellion? A Field Experiment with High-Risk Men in a Fragile State. *American Political Science Review 1*(110), 1–17.

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

Brückner, M. and A. Ciccone (2010). International Commodity Prices, Growth and the Outbreak of Civil War in Sub-Saharan Africa. *Journal of Political Economy 120*, 519–534.

Bueno de Mesquita, E. (2005). Conciliation, Counterterrorism, and Patterns of Terrorist Violence. *International Organization 59*(1), 145–176.

Bueno de Mesquita, E. (2008). Terrorist Factions. *Quarterly Journal of Political Science 3*(4), 399–418.

Bussmann, M. and G. Schneider (2007). When globalization discontent turns violent: Foreign economic liberalization and internal war. *International Studies Quarterly 51*(1), 79–97.

Calí, M. and S. H. Miaari (2013). The Labor Market Impact of Mobility Restrictions: Evidence from the West Bank. Policy Research Working Paper Series 6457, The World Bank.

Collier, P. and A. Hoeffler (1998). On Economic Causes of Civil War. *Oxford Economics Papers 50*, 563–573.

Collier, P. and A. Hoeffler (2004). Greed and Grievance in Civil War. *Oxford Economic Papers 4*(56), 563–595.

Dal Bó, E. and P. Dal Bó (2011, 08). Workers, Warriors, And Criminals: Social Conflict In General Equilibrium. *Journal of the European Economic Association 9*(4), 646–677.

Di Maio, M. and T. K. Nandi (2013). The effect of the Israeli-Palestinian conflict on child labor and school attendance in the West Bank. *Journal of Development Economics 100*(1), 107–116.

Do, Q.-T. and L. Iyer (2010). Geography, Poverty and Conflict in Nepal. *Journal of Peace Research 47*, 735–748.

Dube, O. and J. F. Vargas (2013). Commodity Price Shocks and Civil Conflict: Evidence from Colombia. *The Review of Economic Studies 80*(4), 1384–1421.

Ethier, W. J. (1982). National and International Returns to Scale in the Modern Theory of International Trade. *American Economic Review 72*(3), 389–405.

Etkes, H. and A. Zimring (2015). When trade stops: Lessons from the Gaza blockade 20072010. *Journal of Peace Research 1*(96), 16–27.

Fair, C. C., R. Littman, N. Malhotra, and J. N. Shapiro (2016). Relative Poverty, Perceived Violence, and Support for Militant Politics: Evidence from Pakistan. *Political Science Research and Methods*, 125.

Fearon, J. D. and D. D. Laitin (2003). Ethnicity, Insurgency, and Civil War. *American Political Science Review 97*, 75–90.

Gartzke, E. (1998). Kant We All Just Get Along? Opportunity, Willingness, and the Origins of the Democratic Peace. *American Journal of Political Science 1*(42), 1–27.

Gartzke, E., Q. Li, and C. Boehmer (2001). Investing in the Peace: Economic Interdependence and International Conflict. *International Organization 2*(55), 391–438.

Giuliano, P. and A. Spilimbergo (2014). Growing up in a Recession. *The Review of Economic Studies 2*(81), 787–817.

Grossman, H. (1991). A General Equilibrium Model of Insurrections. *American Economic Review 81*, 912–921.

Hirshleifer, J. (1995). Anarchy and its Breakdown. *Journal of Political Economy 103*(1), 26–52.

Kalyvas, S. (2006). *The Logic of Violence in Civil War.* Cambridge University Press.

Krueger, A. B. and D. D. Laitin (2008). Kto Kogo?: A Cross-Country Study of the Origins and Targets of Terrorism. In P. Keefer and N. Loayza (Eds.), *Terrorism, Economic Development, and Political Openness*, pp. 148–173. New York: Cambridge University Press.

Krueger, A. B. and J. Malecková (2003). Education, Poverty and Terrorism: Is There a Causal Connection? *Journal of Economic Perspectives 17*, 119–144.

Longo, M., D. Canetti, and N. Hite-Rubin (2014). A Checkpoint Effect? Evidence from a Natural Experiment on Travel Restrictions in the West Bank. *American Journal of Political Science 58*(4), 1006–1023.

Lyall, J., G. Blair, and K. Imai (2013). Explaining support for combatants during wartime: A survey experiment in Afghanistan. *American Political Science Review 4*(107), 679–705.

Mansfield, E. D. (1994). *Power, trade, and war.* Princeton, NJ: Princeton University Press.

Mansfield, E. D. and J. C. Pevehouse (2000). Trade Blocs, Trade Flows, and International Conflict. *International Organization 54*(4), 775–808.

Martin, P., M. Thoenig, and T. Mayer (2008a). Civil Wars and International Trade. *Journal of the European Economic Association 6*(2/3), 541–550.

Martin, P., M. Thoenig, and T. Mayer (2008b). Make Trade Not War? *The Review of Economic Studies 75*(3), 865–900.

Melitz, M. J. (2003). The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. *Econometrica 71*(6), 1695–1725.

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

Oneal, J. R., F. H. Oneal, Z. Maoz, and B. Russett (1996). The Liberal Peace: Interdependence, Democracy, and International Conflict, 1950-85. *Journal of Peace Research 1*(33), 11–28.

Oneal, J. R. and B. Russett (2001). Clear and clean: The fixed effects of the liberal peace. *International Organization 2*(55), 469–485.

PALTRADE (2010). West Bank Crossing Bi-monthly Monitoring Report, June-July. Technical report, PALTRADE.

Rosendorff, B. P. and T. Sandler (2010). Suicide Terrorism and the Backlash Effect. *Defence and Peace Economics 21*(5), 443–457.

Schneider, G. (2007). Peace through globalization and capitalism? prospects of two liberal propositions. *Journal of Peace Research 51*(2), 173–183.

Schrodt, P. A. and O. Yilmaz (2007). Conflict and Mediation Event Observations Codebook. Center for International Political Analysis Institute for Policy and Social Research - University of Kansas.

Shilliday, A. and J. Lautenschlager (2012). Data for a Global ICEWS and Ongoing Research. Technical report, 2nd International Conference on Cross-Cultural Decision Making: Focus 2012.

TIDCA (2012). Inside the Trade and Industry Department. Technical report, The Civil Administration of Judea and Samaria.

Valentino, B., P. Huth, and D. Balch-Lindsay (2004). Draining the Sea: Mass Killing and Guerrilla Warfare. *International Organization 1*(58), 375–407.

World Bank (2007). Movement and access restrictions in the West Bank: uncertainty and inefficiency in the Palestinian economy. Technical report, The World Bank.

World Bank (2013). West Bank and Gaza - Area C and the future of the Palestinian economy. Technical Report Report No.AUS2922, The World Bank.

Tables and Figures

TABLE 1: TIMELINE OF EVENTS: 2000-2010

Year	*Month*	*West Bank*	*Gaza Strip*
2000	September	Second Intifada begins	
2005	August		Disengagement of IDF
2005	August	Second Intifada ends	
2006	January	Elections in the OPT Hamas wins the elections Economic sanctions against the Palestinian National Authority	
2007	June		Battle of Gaza (Hamas/Fatah conflict)
	June	*de facto* division of the OPT: West Bank (PNA), Gaza (Hamas)	
	June	Removal of sanctions	Israeli imposes the blockade
2008	January	Issue dual-use list	
2010	January	Reduction of number of items in the dual-use list	Loosening of the blockade

Notes. Various sources.

TABLE 2: INTENSITY IN DUAL-USE INPUTS BY SECTOR

ISIC 4	m_s	Description
		Least Intensive Sectors
1600	0.0001	Manufacture of tobacco products
1532	0.0001	Manufacture of starches and starch products
1543	0.0002	Manufacture of cocoa, chocolate and sugar confectionery
1542	0.0003	Manufacture of sugar
1554	0.0010	Manufacture of soft drinks; production of mineral waters
1549	0.0013	Manufacture of other food products n.e.c.
1553	0.0014	Manufacture of malt liquors and malt
1544	0.0014	Manufacture of macaroni, noodles, couscous, etc.
1520	0.0018	Manufacture of dairy products
1533	0.0020	Manufacture of prepared animal feeds
		Most Intensive Sectors
2720	0.3457	Manufacture of basic precious and non-ferrous metals
1723	0.3614	Manufacture of cordage, rope, twine and netting
3220	0.4102	Manufacture of television and radio transmitters, etc.
2922	0.4142	Manufacture of machine tools
2732	0.4343	Casting of non-ferrous metals
2731	0.4343	Casting of iron and steel
2696	0.4687	Cutting, shaping and finishing of stone
3592	0.4911	Manufacture of bicycles and invalid carriages
2411	0.4930	Manufacture of basic chemicals, except fertilizers and nitrogen compounds
2421	0.5637	Manufacture of pesticides and other agrochemical products

Notes. The table reports the bottom and top 10 ISIC 4-digit sectors with the lowest and highest value of intensity in dual-use inputs m_s. The value of m_s is between 0 and 1 by definition, as explained in Section 4 (Sources: BEA).

TABLE 3: INDUSTRIAL OUTPUT, PRICES AND WAGES IN THE WEST BANK

	Output Value	Output Value 4-digit PPI	Price	Output	Wages
$m_s \times$ *Post2008*$_t$	-0.704**	-0.646**	0.044	-0.691***	-1.428***
	(0.303)	(0.257)	(0.110)	(0.242)	(0.325)
Year FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
Observations	1039	607	619	607	946
R^2	0.893	0.884	0.789	0.872	0.924

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is a 4-digit sector in a year. m_s is intensity of each sector in dual-use inputs as derived from US Input-Output matrix. All dependent variables are in log. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted by the number of establishments per sector. Standard errors are clustered at the 4-digit sector level (Sources: BEA, PCBS Industry Survey).

TABLE 4: ROBUSTNESS: IMPORT AND EXPORT INTENSITY AS CONTROL

	Output Value	Output Value 4-digit PPI	Price	Output	Wages
$m_s \times$ *Post2008*$_t$	-1.752***	-1.704***	0.309	-2.020***	-2.233***
	(0.470)	(0.504)	(0.234)	(0.459)	(0.774)
$f_s \times$ *Post2008*$_t$	0.442	0.550	-0.462**	1.014*	0.296
	(0.507)	(0.660)	(0.232)	(0.584)	(0.312)
$e_s \times$ *Post2008*$_t$	0.055**	0.056*	-0.018	0.074***	0.041
	(0.023)	(0.029)	(0.012)	(0.026)	(0.031)
Year FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
Observations	878	593	599	593	815
R^2	0.886	0.885	0.801	0.875	0.925

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is a 4-digit sector-year. m_s is intensity of each sector in dual-use inputs as derived from US Input-Output matrix. f_s is import intensity calculated by dividing the value of imported materials by total output value in each sector in 2000. e_s is export intensity calculated by dividing the value of external sales by total output value in each sector in 2000. All dependent variables are in log. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted by the number of establishments per sector. Standard errors are clustered at the 4-digit sector level (Sources: BEA, PCBS Industry Survey).

TABLE 5: WAGES IN THE WEST BANK

	Daily Wage				
	(1)	(2)	(3)	(4)	(5) Log
$m_l \times$ *Post2008*$_t$	-15.988	-18.953**	-33.501*	-20.538*	-0.198*
	(10.285)	(9.546)	(17.611)	(11.162)	(0.113)
Share of Manuf		18.985***	13.723***	13.906**	0.242***
		(4.495)	(4.411)	(6.772)	(0.053)
Share of Agric		-7.661	-5.475	-15.001***	-0.111
		(5.313)	(5.184)	(5.641)	(0.075)
Locality Trends	No	No	Yes	No	No
Obstacles	No	No	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Observations	2769	2571	2571	1585	2571
R^2	0.723	0.730	0.854	0.772	0.732

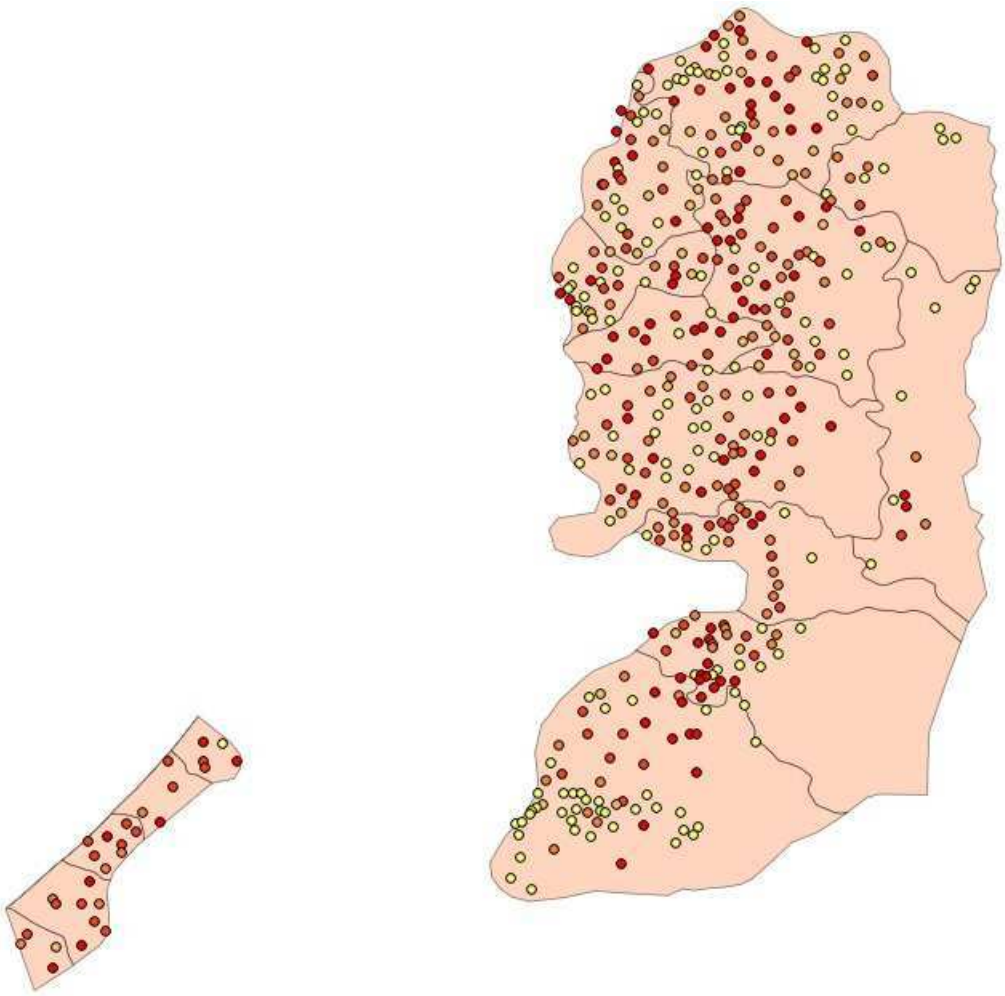
Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in the Labor Force Survey a year. Dependent variable is average daily wage among employed individuals surveyed in the locality. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted according to estimated sampling probabilities and surveyed population in each location. Standard errors are clustered at the locality level (Sources: BEA, PCBS Labor Force Survey).

TABLE 6: POLITICAL VIOLENCE IN THE WEST BANK

	Number of Violent Events				
	(1)	(2)	(3)	(4) Poisson	(5) Log
$m_l \times$ *Post2008*$_t$	1.671**	2.008**	2.575*	7.850***	0.061*
	(0.759)	(1.009)	(1.538)	(1.224)	(0.036)
Locality Trends	No	Yes	No	No	No
Obstacles	No	No	Yes	No	No
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Observations	7488	7488	3600	1728	7488
R^2	0.661	0.785	0.687		0.798

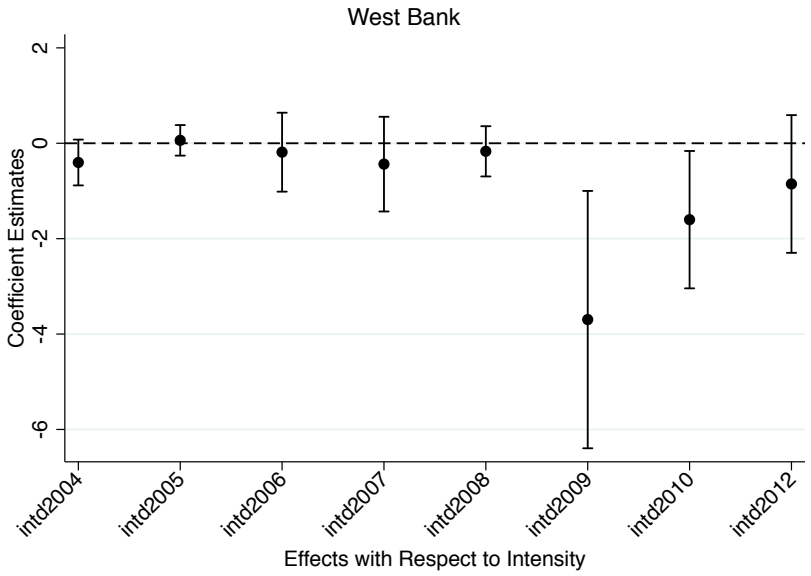
Notes. (* p-value$<$ 0.1; ** p-value$<$0.05; *** p-value$<$0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in a year. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Standard errors are clustered at the locality level (Sources: BEA, ICEWS, UN-OCHA).

Figure 1: Dual-use Input Intensity Across Locations



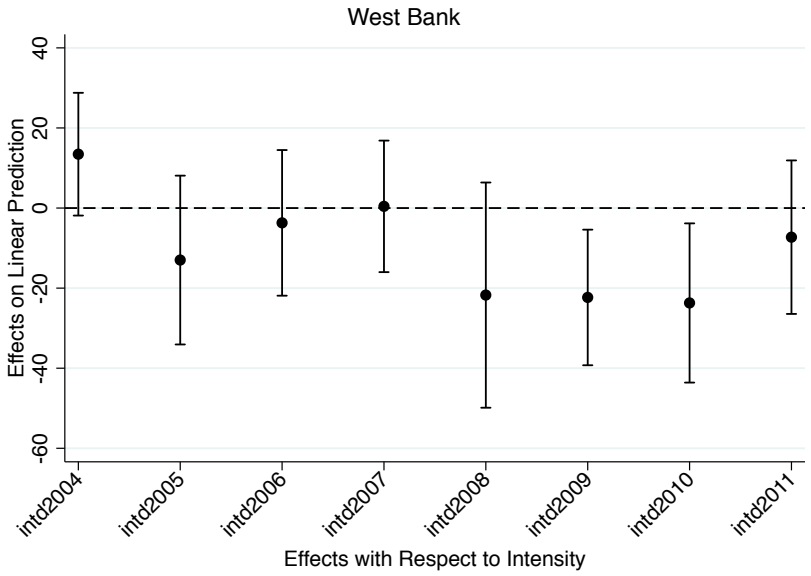
Notes. The Figure shows the location of each locality in both the West Bank and the Gaza Strip. Colors correspond to the degree of intensity in dual-use inputs in each location according to their quintile of the distribution of the m_l variable, from yellow to red (Sources: BEA, PCBS).

Figure 2: Dual-use Input Intensity and Wages Across Sectors



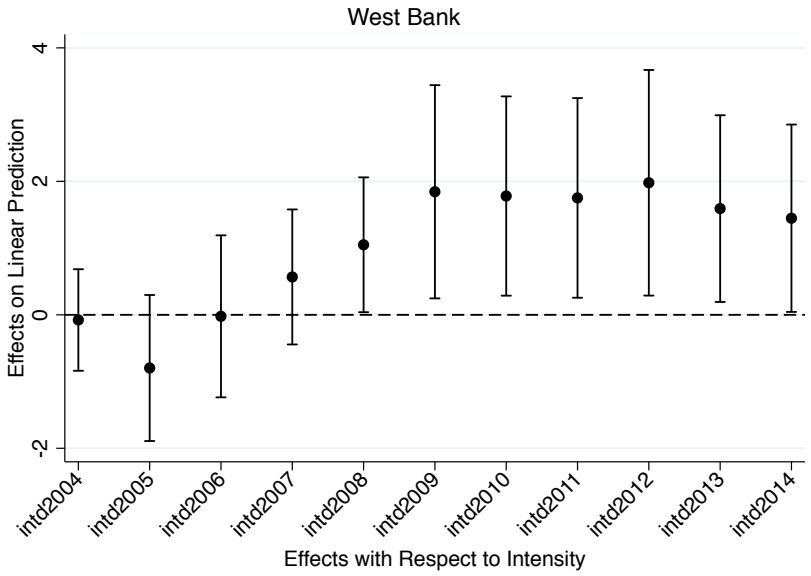
Notes. Dependent variable is the log of wages. The Figure plots the estimated coefficient of the interaction of the dual-use input intensity variable m_s with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, Industry Survey).

Figure 3: Dual-use Input Intensity and Wages Across Localities



Notes. Dependent variable is the daily wage in the locality. The Figures plot the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, Labor Force Survey).

Figure 4: Dual-use Input Intensity and Political Violence



Notes. Dependent variable is the number of violent events in the locality. The Figure plots the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, ICEWS).

Online Appendix: Security, Trade, and Political Violence

TABLE A.1: INDUSTRIAL OUTPUT, PRICES AND WAGES IN THE WEST BANK
ROBUSTNESS: SECTOR-SPECIFIC TRENDS

	Output Value	Output Value 4-digit PPI	Price	Output	Wages
$m_s \times Post2008_t$	-0.587**	-0.698***	-0.373***	-0.326	-1.454*
	(0.271)	(0.258)	(0.067)	(0.264)	(0.881)
Sector Trends	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
Observations	1039	607	619	607	946
R^2	0.936	0.929	0.932	0.919	0.941

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is a 4-digit sector in a year. m_s is intensity of each sector in dual-use inputs as derived from US Input-Output matrix. All dependent variables are in log. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted by the number of establishments per sector. Standard errors are clustered at the 4-digit sector level (Sources: BEA, PCBS Industry Survey).

TABLE A.2: TEST OF BALANCEDNESS

Variables	(1) m_l	(2) m_l	(3) m_l	(4) m_l	(5) m_l	(6) m_l	(7) m_l	(8) m_l	(9) m_l	(10) m_l	(11) m_l
Population	0.0001										
	(0.000)										
Daily wage		0.000									
		(0.000)									
Working days (per month)			-0.000								
			(0.002)								
Share of manufacturing				0.041							
				(0.031)							
Share of agriculture					0.046						
					(0.048)						
Share of workers in public sector						-0.065					
						(0.090)					
Share of self-employed workers							0.036				
							(0.082)				
Unemployment								-0.373			
								(0.281)			
Out of the labor force									-0.186		
									(0.129)		
Non-schooling										0.056	
										(0.089)	
High education											-0.021
											(0.046)
Constant	0.0382***	0.024	0.049	0.025*	0.036***	0.051***	0.034**	0.056***	0.144*	0.035***	0.045***
	(0.006)	(0.018)	(0.047)	(0.013)	(0.003)	(0.017)	(0.014)	(0.016)	(0.075)	(0.007)	(0.012)
Observations	187	187	187	187	187	187	187	187	187	187	187
R-squared	0.000	0.003	0.000	0.011	0.011	0.007	0.002	0.014	0.030	0.003	0.001
rmse	0.0781	0.0588	0.0589	0.0586	0.0586	0.0587	0.0589	0.0585	0.0580	0.0588	0.0589

Notes. (* p-value$<$ 0.1; ** p-value$<$0.05; *** p-value$<$0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in 1999. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. Independent variables are locality-level characteristics (Sources: BEA, PCBS Labor Force Survey).

TABLE A.3: WAGES IN THE GAZA STRIP

	Daily Wage				
	(1)	(2)	(3)	(4)	(5) Log
$m_l \times$ *Post2008*$_t$	15.166	-15.318	20.252	37.366	-0.261
	(78.007)	(85.732)	(85.760)	(64.547)	(1.418)
Share of Manuf		-12.118	1.926	-11.789	-0.231
		(13.943)	(11.817)	(13.873)	(0.207)
Share of Agric		4.422	3.582	-2.558	0.086
		(5.812)	(5.248)	(5.606)	(0.092)
Locality Trends	No	No	Yes	No	No
Obstacles	No	No	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Observations	447	420	420	221	420
R^2	0.502	0.514	0.778	0.628	0.526

Notes. (* p-value$<$ 0.1; ** p-value$<$0.05; *** p-value$<$0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in the Labor Force Survey a year. Dependent variable is average daily wage among employed individuals surveyed in the locality. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted according to estimated sampling probabilities and surveyed population in each location. Standard errors are clustered at the locality level (Sources: BEA, PCBS Labor Force Survey).

TABLE A.4: INDUSTRIAL OUTPUT, PRICES AND WAGES IN THE GAZA STRIP

	Output Value	Output Value 4-digit PPI	Price	Output	Wages
$m_s \times Post2008_t$	-0.456	-0.899	-0.013	-0.900	0.089
	(0.742)	(0.659)	(0.110)	(0.573)	(0.460)
Year FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
Observations	794	503	569	503	636
R^2	0.853	0.851	0.803	0.849	0.898

Notes. (* p-value$<$ 0.1; ** p-value$<$0.05; *** p-value$<$0.01) Standard errors in parenthesis. Unit of observation is a 4-digit sector in a year. m_s is intensity of each sector in dual-use inputs as derived from US Input-Output matrix. All dependent variables are in log. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted by the number of establishments per sector. Standard errors are clustered at the 4-digit sector level (Sources: BEA, PCBS Industry Survey).

TABLE A.5: UNEMPLOYMENT IN THE WEST BANK

	Unemployment Probability			
	(1)	(2)	(3)	(4)
$m_l \times$ *Post2008*$_t$	0.069	0.072	0.152**	0.055
	(0.051)	(0.053)	(0.061)	(0.042)
Share of Manuf		-0.059***	-0.044***	-0.022
		(0.013)	(0.015)	(0.015)
Share of Agric		-0.019	-0.049***	-0.023*
		(0.013)	(0.014)	(0.014)
Locality Trends	No	No	Yes	No
Obstacles	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Observations	2774	2574	2574	1587
R^2	0.536	0.554	0.741	0.608

Notes. (* p-value$<$ 0.1; ** p-value$<$0.05; *** p-value$<$0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in the Labor Force Survey a year. Dependent variable is average probability of unemployment among individuals surveyed in the locality. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted according to the locality population size in 1997. Standard errors are clustered at the locality level (Sources: BEA, PCBS Labor Force Survey).

TABLE A.6: UNEMPLOYMENT IN THE GAZA STRIP

	Unemployment Probability			
	(1)	(2)	(3)	(4)
$m_l \times$ *Post2008*$_t$	-0.213	-0.244	0.104	-0.469**
	(0.205)	(0.209)	(0.226)	(0.220)
Share of Manuf		-0.036	-0.104***	-0.084
		(0.036)	(0.035)	(0.061)
Share of Agric		-0.101***	-0.095***	-0.104***
		(0.025)	(0.027)	(0.025)
Locality Trends	No	No	Yes	No
Obstacles	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes
Observations	447	420	420	221
R^2	0.676	0.723	0.829	0.662

Notes. (* p-value$<$ 0.1; ** p-value$<$0.05; *** p-value$<$0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in the Labor Force Survey a year. Dependent variable is average probability of unemployment among individuals surveyed in the locality. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted according to the locality population size in 1997. Standard errors are clustered at the locality level (Sources: BEA, PCBS Labor Force Survey).

TABLE A.7: MONTHLY DAYS OF WORK IN THE WEST BANK

	Monthly Days of Work				
	(1)	(2)	(3)	(4)	(5) Log
$m_l \times$ *Post2008*$_t$	-0.299	-1.162	-2.916	-0.035	-0.059
	(0.680)	(0.987)	(2.640)	(1.124)	(0.048)
Share of Manuf		-6.372***	-5.955***	-6.133***	-0.308***
		(0.603)	(0.705)	(0.815)	(0.030)
Share of Agric		-2.899***	-1.997**	-2.820***	-0.147***
		(0.691)	(0.801)	(0.700)	(0.034)
Locality Trends	No	No	Yes	No	No
Obstacles	No	No	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Observations	2754	2571	2571	1570	2571
R^2	0.544	0.593	0.720	0.668	0.580

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in the Labor Force Survey a year. Dependent variable is average monthly days of work among employed individuals surveyed in the locality. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted according to estimated sampling probabilities and surveyed population in each location. Standard errors are clustered at the locality level (Sources: BEA, PCBS Labor Force Survey).

TABLE A.8: MONTHLY DAYS OF WORK IN THE GAZA STRIP

	Monthly Days of Work				
	(1)	(2)	(3)	(4)	(5) Log
$m_l \times$ *Post2008*$_t$	2.498	-0.127	8.690	0.228	-0.015
	(5.184)	(4.513)	(7.944)	(4.262)	(0.189)
Share of Manuf		-6.112***	-4.519***	-5.247***	-0.262***
		(0.796)	(1.448)	(1.803)	(0.034)
Share of Agric		-3.247***	-2.657***	-3.244***	-0.139***
		(0.631)	(0.830)	(0.720)	(0.027)
Locality Trends	No	No	Yes	No	No
Obstacles	No	No	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Observations	447	420	420	221	420
R^2	0.001	0.147	0.071	0.113	0.142

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in which was surveyed in the Labor Force Survey a year. Dependent variable is average monthly days of work among employed individuals surveyed in the locality. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Observations are weighted according to estimated sampling probabilities and surveyed population in each location. Standard errors are clustered at the locality level (Sources: BEA, PCBS Labor Force Survey).

TABLE A.9: POLITICAL VIOLENCE IN THE GAZA STRIP

	Number of Violent Events				
	(1)	(2)	(3)	(4) Poisson	(5) Log
$m_l \times$ *Post2008*$_t$	-13.460	-43.666	231.514	-0.154	-2.598
	(57.289)	(152.397)	(261.167)	(2.913)	(2.826)
Locality Trends	No	Yes	No	No	No
Obstacles	No	No	Yes	No	No
Year FE	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes
Observations	640	640	252	272	640
R^2	0.647	0.848	0.797		0.840

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in a year. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Standard errors are clustered at the locality level (Sources: BEA, ICEWS, UN-OCHA).

TABLE A.10: POLITICAL VIOLENCE IN THE WEST BANK
PLACEBO FOR YEAR 2006

	Number of Violent Events		
	(1)	(2)	(3) Log
$m_l \times$ *Post2006*$_t$	0.397	-0.462	0.008
	(0.415)	(0.855)	(0.029)
Locality Trends	No	Yes	No
Obstacles	No	No	No
Year FE	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes
Observations	4212	4212	4212
R^2	0.791	0.912	0.833

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in a year. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. Sample is restricted to observations before 2008. *Post2006* is a dummy equal to 1 for observations belonging to the year 2006 or after. Standard errors are clustered at the locality level (Sources: BEA, ICEWS, UN-OCHA).

TABLE A.11: POLITICAL VIOLENCE IN THE WEST BANK
SPATIAL LAGS

	Number of Violent Events					
	(1)	(2)	(3)	(4)	(5)	(6)
	$n = 5$	$n = 5$	$n = 5$	$n = 10$	$n = 10$	$n = 10$
$m_l \times$ *Post2008*$_t$	2.334*	1.943*	2.199*	2.649*	2.771*	2.731*
	(1.205)	(1.179)	(1.206)	(1.406)	(1.676)	(1.632)
$\overline{m}_{-l} \times$ *Post2008*$_t$	-0.723	4.729	2.385	-2.747	-0.331	-0.966
	(4.005)	(3.121)	(3.234)	(3.224)	(2.803)	(2.582)
Locality Trends	No	Yes	No	No	Yes	No
Obstacles	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Locality FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6384	6384	3591	6400	6400	3600
R^2	0.661	0.785	0.687	0.661	0.785	0.687

Notes. (* p-value< 0.1; ** p-value<0.05; *** p-value<0.01) Standard errors in parenthesis. Unit of observation is an OPT locality in a year. m_l is intensity of each locality in dual-use inputs as derived from the US Input-Output matrix and employment in the 1997 Population Census. $\overline{m}_{-l}$ is average dual-use input intensity in the closest n localities, where the value of n is indicated on top of each column. *Post2008* is a dummy equal to 1 for observations belonging to the year 2008 or after. Standard errors are clustered at the locality level (Sources: BEA, ICEWS, UN-OCHA).

TABLE A.12: CLASSIFICATION OF VIOLENT AND NON-VIOLENT EVENTS 1/3

Violent	CAMEO Event Category
1	Abduct, hijack, or take hostage
0	Accuse
0	Accuse of aggression
0	Accuse of crime, corruption
0	Accuse of espionage, treason
0	Accuse of human rights abuses
0	Accuse of war crimes
0	Appeal for change in institutions, regime
0	Appeal for change in leadership
0	Appeal for de-escalation of military engagement
0	Appeal for easing of administrative sanctions
0	Appeal for easing of economic sanctions, boycott, or embargo
0	Appeal for easing of political dissent
0	Appeal for policy change
0	Appeal for political reform
0	Appeal for release of persons or property
0	Appeal for rights
0	Appeal for target to allow international involvement (non-mediation)
0	Appeal to yield
1	Arrest, detain, or charge with legal action
1	Assassinate
1	Attempt to assassinate
0	Ban political parties or politicians
0	Bring lawsuit against
1	Carry out car bombing
1	Carry out roadside bombing
1	Carry out suicide bombing
1	Coerce
0	Complain officially
0	Conduct hunger strike
0	Conduct hunger strike for policy change
0	Conduct strike or boycott
0	Conduct strike or boycott for policy change
1	Conduct suicide, car, or other non-military bombing
0	Confiscate property
0	Criticize or denounce
0	Decline comment
0	Defy norms, law
0	Demand
0	Demand change in institutions, regime
0	Demand change in leadership
0	Demand de-escalation of military engagement
0	Demand diplomatic cooperation (such as policy support)
0	Demand easing of administrative sanctions
0	Demand easing of economic sanctions, boycott, or embargo
0	Demand easing of political dissent
0	Demand economic aid
0	Demand humanitarian aid
0	Demand intelligence cooperation
0	Demand judicial cooperation
0	Demand material cooperation

TABLE A.9: CLASSIFICATION OF VIOLENT AND NON-VIOLENT EVENTS 2/3

Violent	CAMEO Event Category
0	Demand mediation
0	Demand meeting, negotiation
0	Demand military aid
0	Demand policy change
0	Demand political reform
0	Demand release of persons or property
0	Demand rights
0	Demand settling of dispute
0	Demand that target yields
0	Demonstrate for leadership change
0	Demonstrate for policy change
1	Demonstrate military or police power
0	Demonstrate or rally
0	Deny responsibility
1	Destroy property
1	Employ aerial weapons
1	Engage in ethnic cleansing
1	Engage in mass expulsion
1	Engage in mass killings
1	Engage in violent protest for leadership change
1	Expel or deport individuals
1	Expel or withdraw
1	Expel or withdraw peacekeepers
1	Fight with artillery and tanks
1	Fight with small arms and light weapons
0	Give ultimatum
0	Halt mediation
0	Halt negotiations
0	Impose administrative sanctions
0	Impose blockade, restrict movement
0	Impose curfew
0	Impose embargo, boycott, or sanctions
0	Impose restrictions on political freedoms
0	Impose state of emergency or martial law
0	Increase military alert status
0	Increase police alert status
0	Investigate
0	Investigate crime, corruption
0	Investigate human rights abuses
0	Investigate military action
0	Investigate war crimes
1	Kill by physical assault
0	Make pessimistic comment
1	Mobilize or increase armed forces
1	Mobilize or increase police power
0	Obstruct passage, block
0	Occupy territory
1	Physically assault
1	Protest violently, riot
0	Rally opposition against
0	Reduce or break diplomatic relations

TABLE A.9: CLASSIFICATION OF VIOLENT AND NON-VIOLENT EVENTS 3/3

Violent	CAMEO Event Category
0	Reduce or stop economic assistance
0	Reduce or stop humanitarian assistance
0	Reduce or stop material aid
0	Reduce or stop military assistance
0	Reduce relations
0	Refuse to de-escalate military engagement
0	Refuse to ease administrative sanctions
0	Refuse to ease economic sanctions, boycott, or embargo
0	Refuse to ease popular dissent
0	Refuse to release persons or property
0	Refuse to yield
0	Reject
0	Reject economic cooperation
0	Reject judicial cooperation
0	Reject material cooperation
0	Reject mediation
0	Reject plan, agreement to settle dispute
0	Reject proposal to meet, discuss, or negotiate
0	Reject request for change in institutions, regime
0	Reject request for change in leadership
0	Reject request for economic aid
0	Reject request for military aid
0	Reject request for military protection or peacekeeping
0	Reject request for rights
1	Seize or damage property
1	Sexually assault
0	Threaten
0	Threaten non-force
0	Threaten to halt negotiations
0	Threaten to impose curfew
0	Threaten to reduce or break relations
0	Threaten to reduce or stop aid
0	Threaten with administrative sanctions
0	Threaten with military force
0	Threaten with political dissent, protest
0	Threaten with repression
0	Threaten with restrictions on political freedoms
0	Threaten with sanctions, boycott, embargo
1	Torture
0	Use as human shield
1	Use chemical, biological, or radiological weapons
1	Use conventional military force
1	Use tactics of violent repression
1	Use unconventional violence
0	Veto
0	Violate ceasefire

Notes. Sources: Integrated Crisis Early Warning System (ICEWS) dataset. Cases selected by the authors.

Table A.10: Ten Most Frequent Event Types

Entire sample of violent episodes		
CAMEO Event Category	Freq.	Percent
Use unconventional violence	5,808	29.07
Fight with small arms and light weapons	4,295	21.49
Use conventional military force	2,396	11.99
Fight with artillery and tanks	2,193	10.97
Arrest and detain	1,738	8.7
Abduct, hijack, or take hostage	804	4.02
Physically assault	683	3.42
Protest violently, riot	582	2.91
Conduct suicide	405	2.03
Carry out suicide bombing	364	1.82
Violent episodes targeting OPT		
CAMEO Event Category	Freq.	Percent
Use unconventional violence	3,005	28.57
Fight with small arms and light weapons	2,286	21.73
Arrest and detain	1,655	15.73
Use conventional military force	1,219	11.59
Abduct, hijack, or take hostage	571	5.43
Physically assault	386	3.67
Protest violently, riot	287	2.73
Conduct suicide	270	2.57
Expel or deport individuals	169	1.61
Fight with artillery and tanks	138	1.31
Violent episodes targeting Israel		
CAMEO Event Category	Freq.	Percent
Use unconventional violence	2,803	29.62
Fight with artillery and tanks	2,055	21.72
Fight with small arms and light weapons	2,009	21.23
Use conventional military force	1,177	12.44
Physically assault	297	3.14
Protest violently, riot	295	3.12
Abduct, hijack, or take hostage	233	2.46
Carry out suicide bombing	229	2.42
Conduct suicide	135	1.43
Arrest and detain	83	0.88

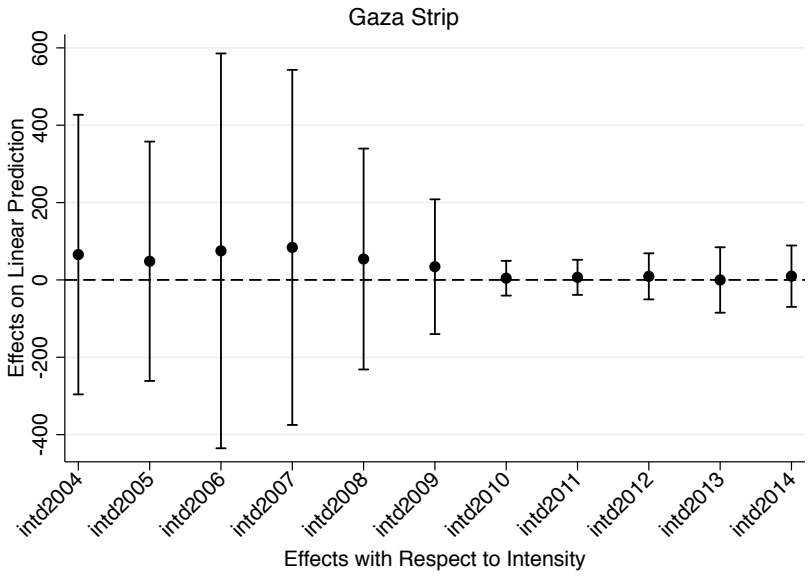
Notes. Sources: Integrated Crisis Early Warning System (ICEWS) dataset. Cases selected by the authors.

Table A.11: Information on a Subsample of Violent Episodes

Date	Source	Target	Perpetrator1	Perpetrator2	Perpetrator3	Perpetrator4	Perpetrator5	Location	Convicted	Premeditated
24/01/2008	Arab citizen of Israel	Israeli police	Muhammad Khalil Adnan Abu-Sneina					East Jerusalem	no	yes
08/03/2008	Palestinian with permanent residency in Jerusalem	Israeli civilians	Alaa Abu Dhein					Jerusalem	no	yes
18/03/2008	Israeli Army	Islamic Jihad Operatives						Bethlehem	no	yes
08/06/2008	Jewish settlers	Palestinian citizen						Sussia settlement	no	no
02/07/2008	Arab citizen of Israel	Israeli civilians	Hosam Tayseer Dawyyat					East Jerusalem	no	no
11/07/2008	Arab citizen of Israel	Israeli police	Muhammad Khalil Adnan Abu-Sneina					East Jerusalem	no	yes
23/10/2008	Palestinian citizen	Israeli citizen, police	Muhammad Elmadan					Gilo, South Jerusalem	no	yes
02/04/2009	Palestinian citizen	Jewish settlers	Moussa Tayet					Bat Ayin settlement	no	no
08/04/2009	Jewish settlers	Palestinians						Safa	no	no
19/04/2009	Palestinian Authority policeman	Hamas law maker	Ne'man 'Amer					Nablus	no	no
06/05/2009	Israeli police	Palestinian citizen						Hebron	no	no
31/05/2009	Hamas, Palestinian Authority	Hamas, Palestinian auhority						Qalqilya	no	yes
04/06/2009	Hamas, Palestinian Authority	Hamas, Palestinian auhority						Qalqilya	no	yes
02/09/2009	Hamas	Jewish settler						East Jerusalem	no	yes
12/09/2009	Israeli police	Palestinian citizen						Qalandiya Refugee Camp	no	no
30/09/2009	Palestinian gunmen	Jewish settler						Shilo settlement	no	no
24/12/2009	Imad Mughniyeh Group	Jewish settler	Raed Jabber Mahmad a-Sarkaj	Raghsan Abu Sharah	Anan Saliman Mustafa Subeh			Samaria settlement (Nablus)	yes	yes
10/02/2010	PA police officer	Israeli police officer	Mohammed Khatib					Samaria	no	yes
24/02/2010	Palestinian terror cell	Israeli citizen	Ayad Fasafa	Kifah Ghanimat	IIyad Fatpatah			Beit Shemesh	no	yes
28/02/2010	Palestinian youth	Israeli police						Ras el-Amud (East Jerusalem)	no	yes
15/06/2010	The Freedom Flotilla's Martyrs	Israeli police						Beit Hagai settlement	no	yes
31/08/2010	Izzadine al-Kassam terror brigades	Jewish settlers	Nashaath al-Karmi	Mamoun al-Natshe				Kiryat Arba	yes	yes
26/09/2010	Abu Musa	Jewish settlers	Nabil Harab	Sameh Sahruh	Mahmad Nasrallah			Teneh Omarim	no	yes
18/12/2010	Palestinian terror cell	American missionary	Ayad Fasafa	Kifah Ghanimat	IIyad Fatpatah			Beit Shemesh	no	yes
11/03/2011	Palestinian youth	Jewish settlers	Hakim Mazen Awad	Amjad Mahmad Awad				Itamar	no	yes
24/04/2011	PA police officer	Israeli citizen	Noaf Fahd Nawaf Benni Uda	Wa'il Hussein Muhammad Da'ud	Tarki Di'ab Tarki Zawara			Nablus	no	no
23/09/2011	Palestinian citizen	Jewish settler	Waal al-Arjeh	Ali Saada				Kiryat Arba	yes	yes
30/04/2013	Palestinian citizen	Jewish settler	Salam Azal					Samaria	yes	no
21/09/2013	Palestinian citizen	Israeli army	Nidal Amar					Qalqilya	no	yes
22/10/2014	Palestinian citizen	Israeli citizen	Abdelrahman al-Shaludi					East Jerusalem	no	no
05/11/2014	Arab citizen of Israel	Israeli citizen, police	Ibrahim al-Akri					East Jerusalem	yes	no
17/11/2014	Palestinian citizen/ Arab citizen of Israel	Israeli citizens, American citizens	Ghassan Jamal	Oday Abu Jamal				East Jerusalem	no	yes

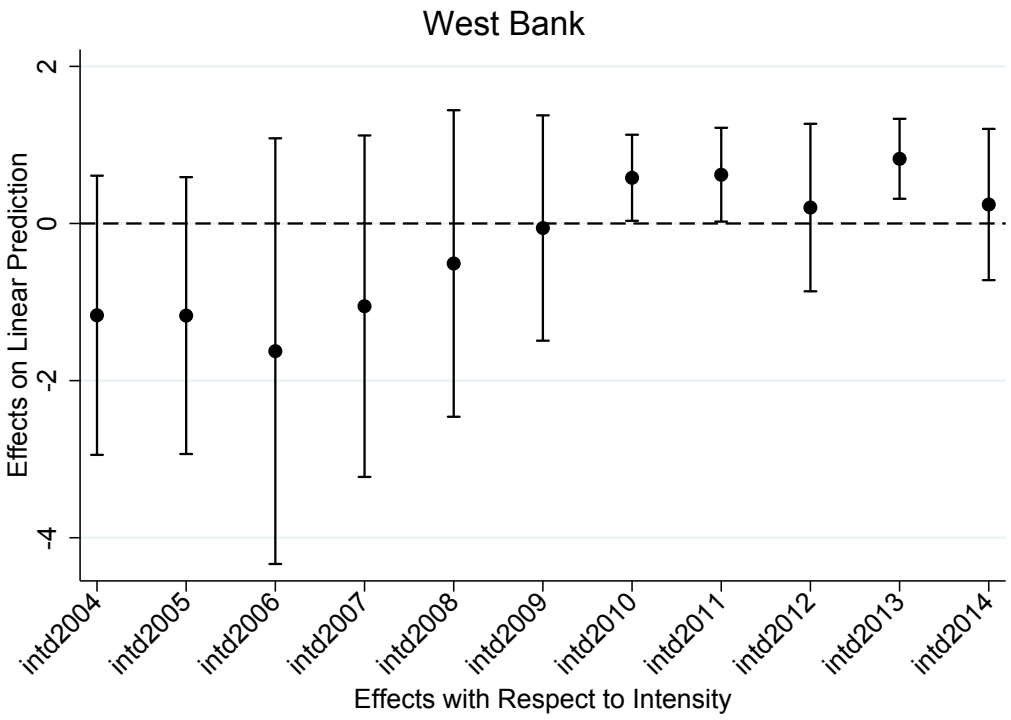
Notes. Sources: events are covered by the press and information has been retrieved using Lexis-Nexis and Factiva. Links to news items are available upon request.

Figure A.1: Dual-use Input Intensity and Political Violence in the Gaza Strip



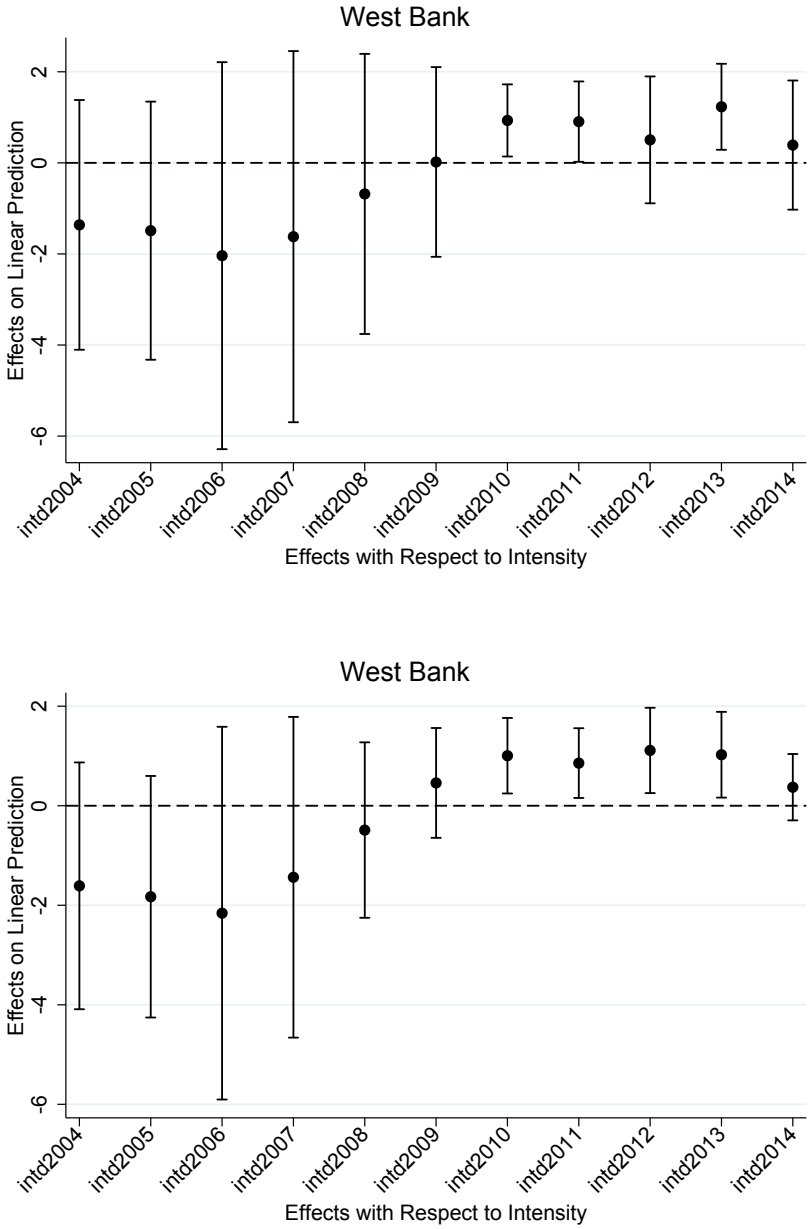
Notes. Dependent variable is the number of violent events in the locality. The Figure plots the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, ICEWS).

Figure A.2: Political Violence: New Fighters



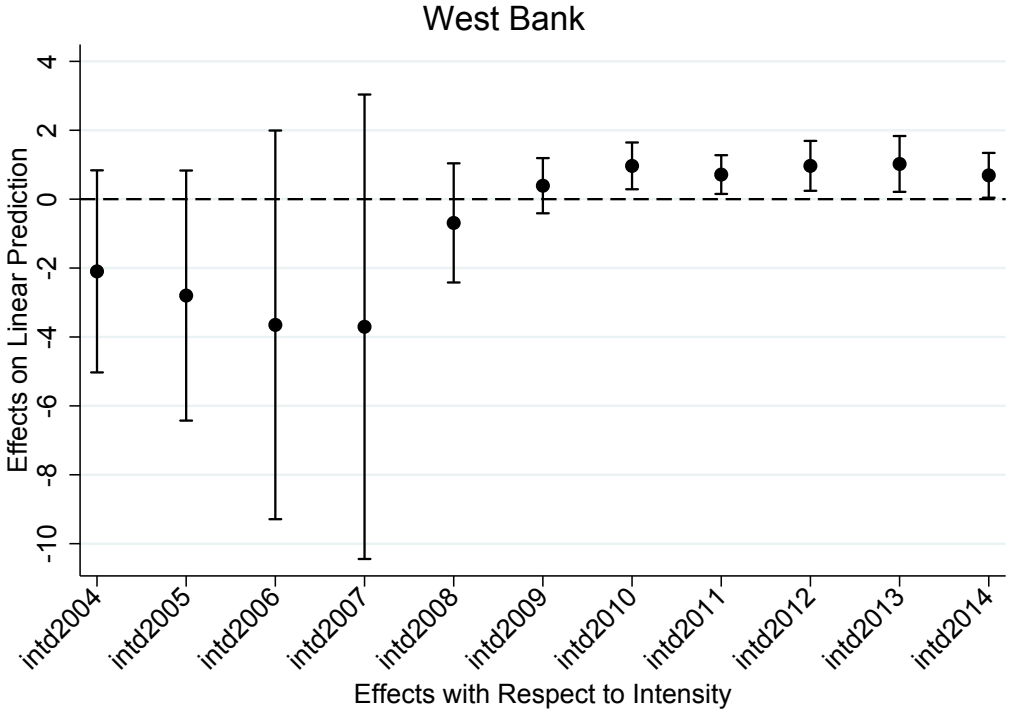
Notes. Dependent variable is the number of violent events perpetrated by new fighters in the locality. The Figures plot the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, ICEWS).

Figure A.3: Political Violence: High-intensity (top) vs. Low-intensity (bottom)



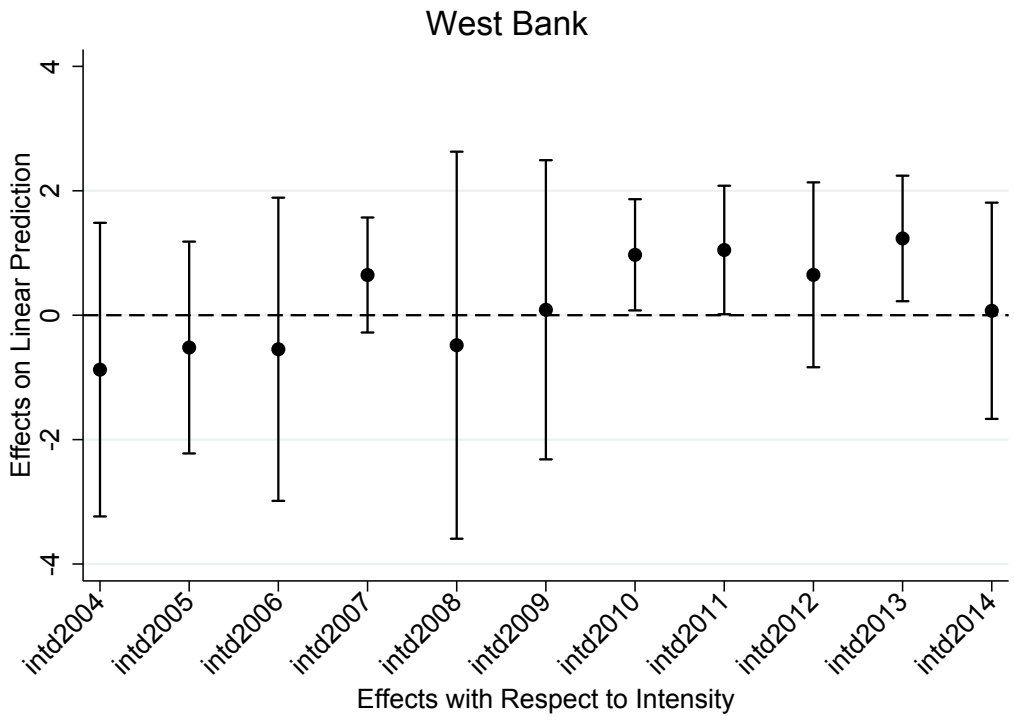
Notes. Dependent variable is the number of violent events with high-intensity (i.e. intensity=-10) and low-intensity (i.e. intensity$>$-10) in the locality. The Figures plot the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, ICEWS).

Figure A.4: Dual-use Input Intensity and Political Violence Targeting OPT



Notes. Dependent variable is the number of violent events targeting OPT in the locality. The Figures plot the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, ICEWS).

Figure A.5: Dual-use Input Intensity and Political Violence Targeting Israel



Notes. Dependent variable is the number of violent events targeting Israel in the locality. The Figures plot the estimated coefficient of the interaction of the dual-use input intensity variable m_l with the corresponding year dummy. The solid vertical lines show the 95% confidence interval of each estimate, while the dash horizontal line indicates zero (Sources: BEA, ICEWS).

ISRAELI LISTS OF FORBIDEN & RESTRICTED GOODS TO THE WEST BANK

I. ARMS & MUNITIONS:

Forbidden transfer under all circumstances across Israel's frontiers without specific permits - as defined in the Control of Exports Security Order (Arms and Munitions) 2008, and in the Control of Exports Security Order (Missile Equipment) 2008.

II. LIST OF RESTRICTED DUAL-USE GOODS TO THE WB:

The list of restricted dual-use goods below is excerpted from the Defense Export Control (Controlled Dual-Use Equipment Transferred to Areas under the Palestinian Authority Jurisdiction) Order 2008 last updated on 2 August, 2009 and translated from Hebrew.

A. Chemicals

1. Chlorate salts
    a. Potassium chlorate – $KClO_3$
    b. Sodium chlorate – $NaClO_3$
2. Perchlorate salts
    a. Potassium perchlorate – $KCLO_4$
    b. Sodium perchlorate – $NaClO_4$
3. Hydrogen peroxide – H_2O_2
4. Nitric acid – HNO_3
5. Musk xylene – $C_{12}H_{15}N_3O_6$
6. Mercury – Hg
7. Hexamine – $C_6H_{12}N_4$
8. Potassium permanganate
9. Sulfuric acid – H_2SO_4
10. Potassium cyanide – KCN
11. Sodium cyanide – NaCN
12. Sulfur – S
13. Phosphorus – P
14. Aluminum powder – Al
15. Magnesium powder – Mg
16. Naphthalene – $C_{10}H_8$
17. Fertilizers
    a. Ammonium nitrate – NH_4NO_3
    b. Potassium nitrate – KNO_3
    c. Urea – CH_4N_{2O}
    d. Urea nitrate – $CH_4N_2ONO_3$
    e. Fertilizer 27-10-17
    f. Fertilizer 20-20-20
    g. Any fertilizer containing any of the chemicals in items a – c
18. Nitrous salts of other metals:
    a. Sodium nitrate – $NaNO_3$
    b. Calcium nitrate – $Ca(NO_3)_2$
19. Pesticides
    a. Lannate
    b. Endosulfan
20. Nitrite salt
21. Methyl bromide – CH_3Br
22. Potassium chloride – KCL

23. Formalin – CH_2O
24. Ethylene glycol – $C_2H_6O_2$
25. Glycerin – $C_3H_8O_3$

B. Other Materials and Equipment

26. Platen, titanium, or graphite plates not more than 10 cm thick
27. Communication equipment, communication support equipment, or any equipment that has a communication function
28. Equipment whose operation can cause interference in communication networks
29. Communication network infrastructure equipment
30. Lathe machines for removing metals (including center lathe machines)
31. Lathe machine spare parts, lathe machine equipment, and lathe machines accessories
32. Machine tools that can be used for one or more of the following functions: erosion, screwing, purifying, and rolling
33. Casting ovens of more than 600 degrees Celsius
34. Aluminum rods with a radius between 50 to 150 mm
35. Metal pipes of 50 to 200 mm radius
36. Metal balls with a radius of 6 mm and bearings containing metal balls with a 6 mm radius
37. Optical binoculars
38. Telescopes including aimers (and markers)
39. Laser distance measuring equipment
40. Laser pointers
41. Night vision equipment
42. Underwater cameras and sealed lenses
43. Compasses and designated navigation equipment including GPS
44. Diving equipment, including diving compressors and underwater compasses
45. Jet skis
46. External marine engines of more than 25 Hp and designated parts for such engines
47. Parachutes, surf-gilders, and flying models
48. Balloons, dirigible airships, hanging gliders, flying models, and other aircraft that do not operate with engine power
49. Devices and instruments for measuring gamma and x-rays
50. Devices and instruments for physical and chemical analysis
51. Telemetric measuring equipment
52. All-terrain vehicles
53. Firearms and ammunition for civilian use (e.g., for hunting, diving, fishing, and sports
54. Daggers, swords, and folding knifes of more than 10 cm
55. An object or a system of objects that can emit fire or detonators including fireworks
56. Uniforms, symbols and badges.
57. All items listed in the Defense Export Control Order (Controlled Dual-use Equipment), 2008 - Items listed under the Wassenaar Arrangement: As specified in the updated (2008) "Wassenaar Arrangement on Export Controls for Arms and Dual Use Goods and Technologies - List of Dual Use Goods and Technologies and Munitions List."