



**IAMO Forum 2014:
The rise of the 'emerging economies':
Towards functioning agricultural markets and trade
relations?**

25-27 June 2014 | Halle (Saale), Germany

**How Do Agricultural Markets Function in Political Conflict? Israeli
Experiences and Views of Israeli-Palestinian Wholesale Food Trade**

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Acknowledgement: The authors acknowledge the generous support of the Deutsche Forschungsgemeinschaft (DFG) for the research project on “The Economic Integration of Agriculture in Israel and Palestine” and also would like to thank Israel Finkelshtain and Ziv Bar-Nahum from the Hebrew University of Jerusalem and Ofir Rubin from the Ben-Gurion University of the Negev for their valuable support.

Abstract:

The Israeli-Palestinian conflict has resulted in societal alienation between both conflicting parties. In some contexts, such as trade, cooperation continues. We provide a micro-level analysis of economic interactions between Israeli and Palestinian fruit and vegetable traders in order to shed light on how institutions in agricultural markets and food trade work subject to fierce political conflict. A unique dataset enables insights into institutions and agents' perceptions of this economic exchange. Israeli-Palestinian trading patterns are found to be mostly informal and surprisingly extensive. Education and personal social networks appear to be key facilitation factors. Israeli traders do not feel affected by the conflict, but wish for a quick resolution. The few transaction problems reported are mainly caused by the political situation and payment behaviour. Despite the on-going conflict, daily contact between economic agents has led to continuous economic cooperation and has improved the perception of the partners from the other party.

Keywords: Food Trade, Israel, Market Institutions, Middle East, Palestinian Territories, Political Conflict, Quantitative Survey

JEL: F14, Q17, Z13

1 INTRODUCTION

The ongoing political conflict between Israel and the Palestinian Territories results in an increasing physical separation and societal alienation of both conflicting parties. Since 2002, Israel has implemented a variety of security policies in consequence of the Second Intifada. The resulting improvement of the security situation in Israel has been accompanied by increased challenges regarding the living conditions in the Palestinian Territories resulting from comprehensive restrictions to the movement of people and goods. In addition to the physical impediments created by the security policies, legislation is a decisive factor. By law, Israelis are not allowed to enter Area A¹ of the West Bank and the Gaza Strip (WORLD BANK 2007: 4). Palestinians need to apply for a permit to enter Israel. Physical separation and entry restrictions led to societal alienation and ethnic and political polarization between both conflicting parties causing, among other consequences, a decline of economic interactions. MASELLA (2013) and ESTEBAN (2007) find that Israel belongs to the countries with the strongest polarization between domestic ethnic groups. Consequently, polarization between the majority of Israeli citizens, which are Jewish, and Palestinians is likely to be even more pronounced because these two groups rival with each other in many aspects.

Regarding trade the situation appears to be different. As Israel is the most important trading partner for the Palestinian Territories, economic exchange continues to exist despite the conflict. While trade between the two parties is characterized by a unilateral dependence of the Palestinian Territories on Israel, the Palestinian Territories are also an important partner for Israeli food trade. Relationships between Israeli and Palestinian traders are challenged substantially by the conflict and the consequent movement restrictions. There is extremely limited information on the institutional framework of trade between Israelis and Palestinians. Our aim consists of analysing the institutional framework of food trade between Israel and the Palestinian Territories which is heavily impeded by the political framework. We inquire into how trading relations are influenced by the conflict, and which factors promote their existence and continuation. In particular, we aim to provide an analysis of traders' networks by considering the attitudes of Israeli traders regarding trade with Palestinians, trade patterns, and transaction problems.

In the context of the Middle East, this case study of economic interdependencies on the one side and violent conflict and political polarization on the other contributes to the political theory of liberal peace. This theory postulates that economically important trade will "reduce conflict because inter-state violence adversely affects commerce, prospectively or contemporaneous" (HEGRE et al. 2010: 771). Our results support the liberal theory of peace research, research which argues that economic interdependencies foster peace because conflict contradicts mutually beneficial economic relationships (ONEAL AND RUSSET 1997; POLACHEK AND XIANG 2010, etc.). We complement analyses such as FERSHTMAN AND GANDAL (1998) who estimate a sizable positive welfare effect for Israeli consumers due to increased economic activity resulting from mutual peace commitments, which they interpret as a "peace dividend". GOERG et al. (2013) examine the willingness of cooperation between Israelis and Palestinians. They find that direct personal contact between individuals belonging to the different groups sharply improves the will for cooperation.

To our knowledge, our analysis is one of the few studies providing comprehensive insights into trade institutions subject to violent conflict from a micro-economic perspective. The focus on the Israeli-Palestinian conflict enables an opportunity to study economic interactions

¹ The West Bank is divided in three administrative units, namely Area A, B and C. Zone A covers 18% of the area of the West bank and is under full Palestinian civil and security control (B'TSELEM 2013: 6).

across the fierce ideological rifts of a long-lasting conflict of substantial international importance.

In contrast to these previous studies, we focus on the institutional characteristics of real economic interdependencies between members of both sides of the conflict. It, therefore, provides additional insights, which complement trade data published by statistical offices. We explicitly consider the perceptions of the political situation, its causes, and its consequences and challenges for economic activities. This micro-level analysis concentrates on the trade of fruit and vegetables as this represents one of the few sectors with continuous and intensive economic Israeli-Palestinian interactions despite the long-lasting political conflict. The insights gained from this study complement the findings of WFP (2009), which assesses the effects of Israeli security policies on fruits and vegetable markets in the Palestinian Territories.

The remainder of our paper is structured as follows: In section 2 we provide background information on food trade between Israel and the Palestinian Territories. Section 3 presents the empirical strategy and characterizes the sample. Section 4 presents the results of the quantitative survey conducted among Israeli wholesale traders, analyses trading patterns, and discusses in detail problems occurring during the transactions. Finally, in section 5 we summarize and draw conclusions.

2 TRADE RELATIONSHIPS BETWEEN ISRAEL AND THE PALESTINIAN TERRITORIES

As Israel and the Palestinian Territories constitute a tariff union only approximate data regarding the range of trade is available (PALTRADE & PERES CENTER FOR PEACE 2006: 24). Therefore, and due to the fact that the Israeli army controls nearly all borders of the Palestinian Territories, Israel is the most important trading partner for the Palestinians. In 2011 Israel was the destination of roughly 86% of all Palestinian exports and the source of about 70% of all Palestinian imports. In contrast to this pattern, only 0.8% of all Israeli imports had their origin in the Palestinian Territories and 5.6% of all Israeli exports went to there (ICBS 2012a; PCBS 2013: 44f) which points to a pronounced asymmetric relationship. The Palestinian Territories are an important trading partner for fruits and vegetables for Israel. Israeli sales of fruit to the Palestinian Territories account for about 20% of total fruit exports (including citrus), and for about 30% of fruit exports not including citrus. Israeli vegetable exports to there are less important (6% of total exports, including potatoes and melons)². The most traded fruits are bananas and apples. The Palestinian Territories export mainly vegetables to Israel, where cucumbers are the most exported product to Israel. Their share amounts to 50% of all exported vegetables (IHLE AND RUBIN 2013).

The values of traded fruits and vegetables as well as their share in total trade from 1998 to 2011 show comprehensive trading relationships between both conflict parties. Both Palestinian exports to Israel and imports from Israel to the Palestinian Territories decreased significantly as a result of the Second Intifada which indicates that the political conflict has the potential to influence trade and to impede the exchange of goods to a significant extent. Since the end of the Second Intifada in 2005, trade has been recovering again for Israeli exports to the Palestinian Territories more than for the Palestinian exports to Israel. There is a pronounced dependence of the Palestinian Territories on Israel discernable.

² Authors calculations for 2011 based on ICBS (2012a) and IMOA (2012).

Table 1: Trade with fruits and vegetables (mil US\$)

Year	Exports from Pal. Ter. to Israel		Imports to Pal. Ter. from Israel		Period
	Total	Fruits and vegetables	Total	Fruits and vegetables	
1998-2000	550	45 (8.2%)	2450	80 (3.2%)	Before Second Intifada
2005	425	17.5 (4.1%)	2350	41 (1.7%)	End of Second Intifada
2007	455	12.1 (2.6%)	2443	54.6 (2.2%)	Post-Intifada
2011	578	no data available	3572	no data available	

Notes: The number in parentheses denotes the shares in the respective total quantities.

Source: Authors' calculations based on PALTRADE & PERES CENTER FOR PEACE (2006) for 1998-2000 and 2005, PCBS (2009) and PCBS (2011a) for 2007, ICBS (2012b) for 2011.

The violent escalation of the conflict during the Second Intifada from 2000 to 2005 has affected harshly both economies (see, e.g., ZUSSMAN et al. 2008). As a reaction, Israel has implemented various security measures in order to curb the resulting dangers for its population, which have various prolonged effects beyond the phase of escalation. The construction of the West Bank Barrier is the most prominent example (Figure 1). The aim of the barrier is to control the movement between Israel and the West Bank. Palestinians require a license for crossing the barrier. While increasing security in Israel, the barrier caused strong constraints for the Palestinian inhabitants of the West Bank and curbed economic interactions between both sides. IHLE AND RUBIN (2013) provide evidence for that these security measures taken affected both of the Palestinian and the Israeli economies. The transport of goods by truck between Israel and the Palestinian Territories is channelled through commercial terminals (Figure 1). Inside the West Bank, a diverse system of impediments including permanent and temporary checkpoints and different kinds of roadblocks are implemented depending on the security situation. Taken together the described security measures considerably challenge economic interactions because they result in increased transport times and costs as well as in a markedly increased degree of risk and uncertainty for Palestinian and Israeli wholesale traders and for maintaining professional networks with the other party (WORD BANK 2008).

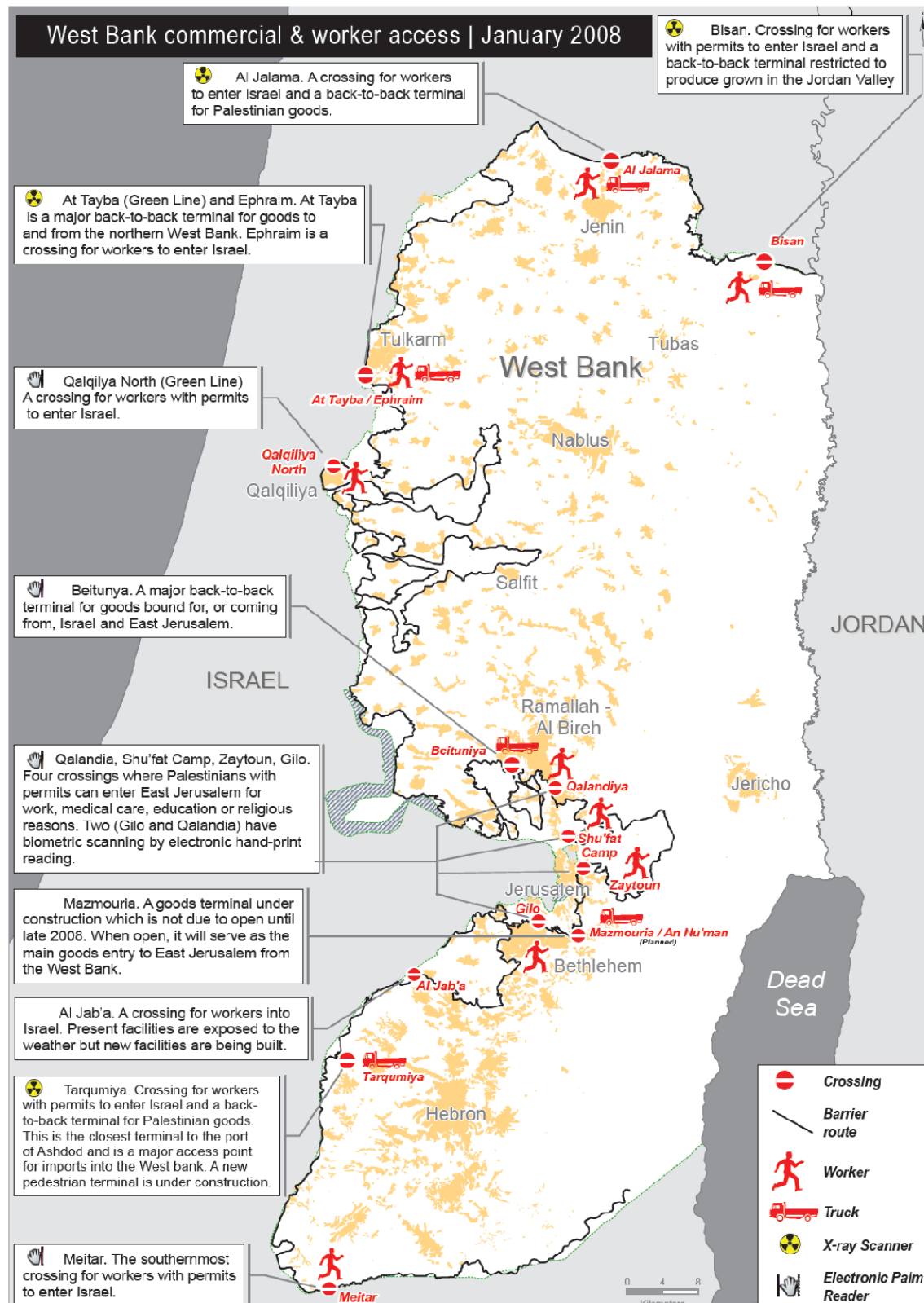


Figure 1: Commercial terminals of the West Bank Barrier
Source: UN OCHAoPT (2008).

The literature only offers limited evidence on the institutional structure of food trade in situations of violent conflict in general and between Israel and the Palestinian Territories in particular. One exception is the study of the WFP (2009) which examines the trading relationships from a Palestinian perspective. The authors provide a comprehensive analysis of

market structures, trading patterns, and problems faced in the economic transactions by focusing on the effects of movement restrictions for Palestinian traders. They find that importers from the West Bank buy their goods mainly on the central Israeli wholesale market in Tsrifin (Tel Aviv) or from producers in Israeli settlements in the West Bank. There are no substantial problems reported concerning the transport of the goods within the Palestinian Territories. Palestinian exporters from the West Bank (exports from the Gaza strip are largely banned since 2007) are much more affected by security measures than their importing colleagues. In particular, restricted opening hours of the commercial crossings and high transportation costs due to the use of alternative routes were reported. Palestinian exporters do not have possibilities for price negotiations with their Israeli buyers but they have a powerful position vis-à-vis their Palestinian suppliers.

3 DATA

We conducted a quantitative survey among Israeli fruit and vegetable wholesale traders. This unique dataset enables us to carry out detailed analyses on the scope and structure of personal economic interactions. From October to December 2011, 51 traders spread throughout the country were interviewed, of which 46 were suitable for analysis. In 2011, 144 wholesalers were registered by the IMOA (IMOA 2011b), but as in recent years licenses have not been enforced, so the total number is likely to be somewhat higher. Thus, our sample covers roughly one third of the population. Figure 2 depicts the locations of the survey with the number of interviewees. Most of the wholesaler shops are located in densely populated areas of Israel, that is, in Jerusalem, Tsrifin (close to Tel Aviv), Haifa, and Rehovot. The survey was conducted in Hebrew and mainly by face-to-face interviews and a lottery incentive of around 100 € for participation was offered. Out of the population of 144 registered wholesalers 80 traders were asked to take part in the survey and 46 completed the questionnaire.

The response rate RR1 for the whole survey amounted to 32% (AAPOR 2009). A possible selection bias is an important factor to be considered. Survey participants might have been more open and cooperative with Palestinians than other traders not surveyed, because traders frequently refused to participate due to a widespread mistrust against authorities in Israel and the fact that they were unwilling to speak about politics in the Israeli context. This indicates that potential interviewees might have refused to participate due to concerns about the political exploitation of their statements. Moreover, traders may have been suspicious due to their doubts about cooperation between the surveyors and governmental institutions on tax matters etc. Particularly during the beginning of the survey, these problems may have been the reason for low response rates, however, the issues were considered solved since sufficient responses of traders were obtained later.

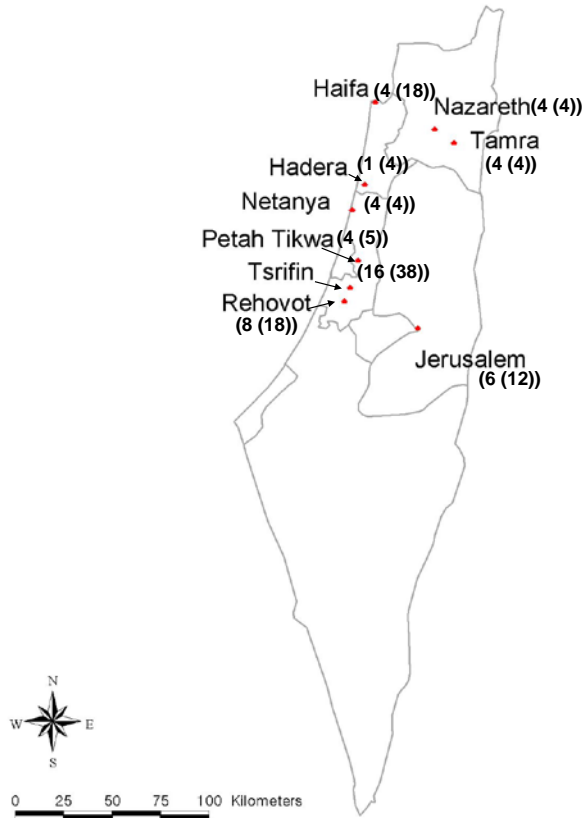


Figure 2: Survey locations

Notes: In parentheses, the first number is the number of interviewed wholesalers in double parentheses is the total number of registered wholesalers.

Source: Authors based on PCBS (2011a: 3) and IMO A (2011b).

Table 2 characterizes the sample of our study. Most of the wholesalers had been working for 21 years or longer in their business; hence together they possessed a large amount of pooled experience. The business size range shows large variation; however, traders tended to judge the size of their business as average compared to their colleagues in the same market. Two thirds of the interviewed traders were Jewish Israelis, 26% were Muslims (implying Arab Israeli ethnicity), while 7% did not indicate their religion and, thus, closely resembles the entire Israeli population as well as its geographical concentration. Arab Israelis cluster in the north of the country.

Table 2: Characterization of the sample

Variable	N	Min	Max	Median	Mean	St. dev.
Duration of employment in the wholesale business (years)	45	1	45	21	22.09	12.97
Business size in comparison to trader colleagues in the same wholesale market*	45	1	5	3	3.29	1.20
Employed people in the business (incl. owner)	45	2	42	10	13.44	8.53

Notes: *Likert-Scale: 1 = “Clearly below average”; 3 = “Average”; 5 = “Clearly above average”.

Source: Authors’ calculations.

Figure 3 displays the traders' self-reported risk attitude graphed according to the sizes of their businesses and their experience. It does not provide any evidence that the wholesalers' attitude towards risk is associated with his professional experience nor with the size of his company. The circle sizes do not appear to be correlated with a certain company size or amount of experience.

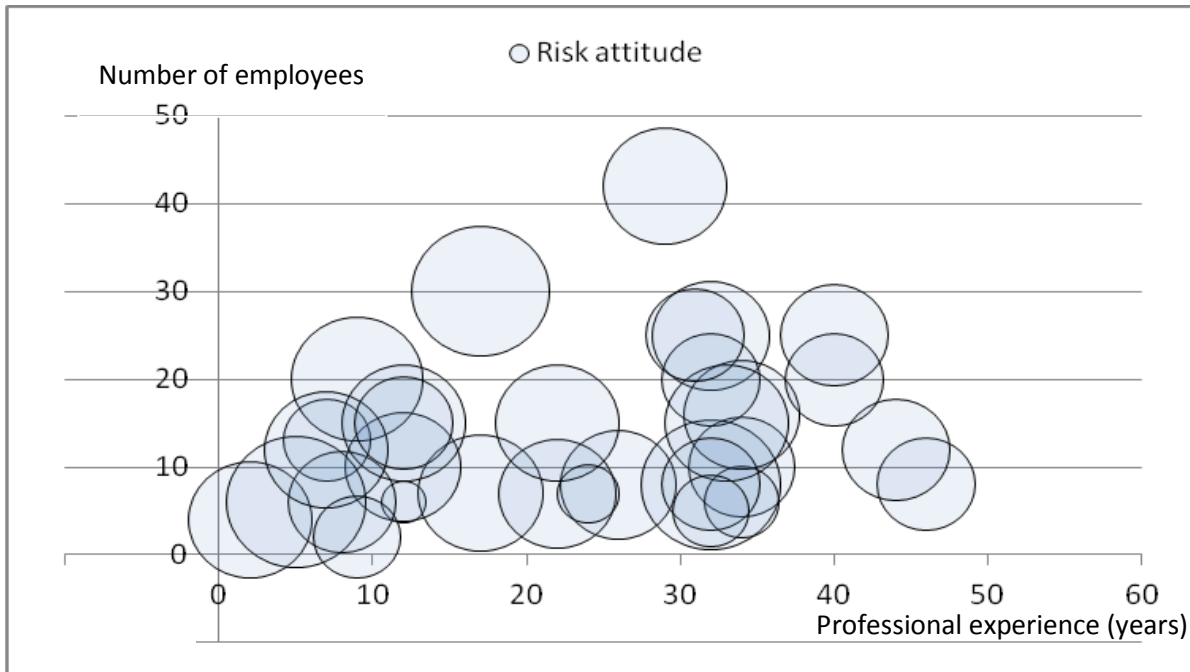


Figure 3: Risk attitudes of wholesalers

Notes: The risk attitude is measured on a Likert-scale between 0 (“not at all willing to take risk”) and 10 (“very well willing to take risk”). The circle size is growing with the degree of risk affinity.

Source: Authors.

4 RESULTS AND DISCUSSION

We examine first how Israeli traders assess the role of the conflict on their business activities (see Figure 4). Israeli wholesalers are clearly concerned about the conflict (item “indifferent”). However, they do not feel that their own businesses are impacted to a great extent as shown by the first two box plots. Interestingly, disagreement concerning the second item is slightly stronger indicating that the traders perceive negative spill-overs from the political situation onto their businesses. The third and fourth box plots confirm this finding. Traders strongly support a speedy resolution of the conflict (item “both suffer”). They value the general benefits for both sides slightly higher than their personal professional interest, which indicates their awareness of comprehensive societal impulses resulting from conflict’s resolution.

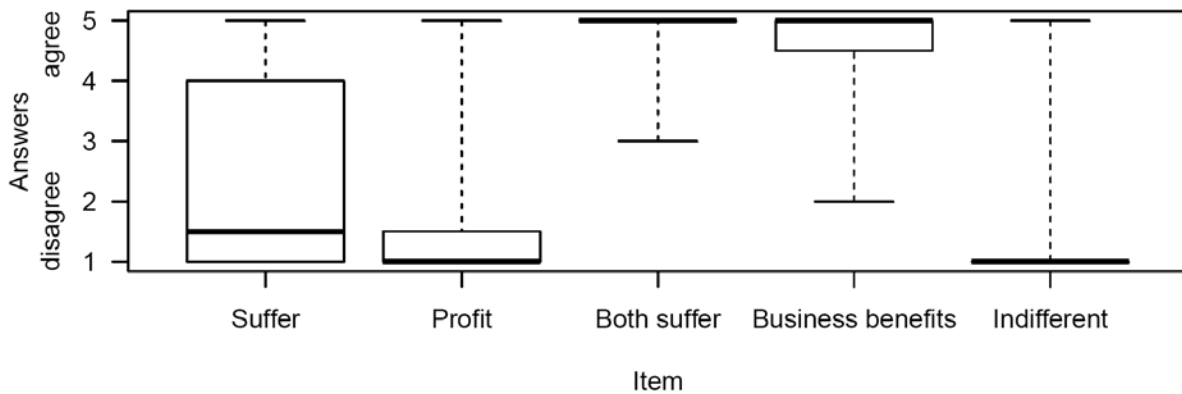


Figure 4: Israeli traders’ perception of the effects of the political conflict

Notes: Likert-Scale: 5 = „Strongly agree”; 3 = „Neither agree nor disagree“; 1 = “Strongly disagree“.

Source: Authors’ calculations.

4.1 Trade with Palestinians

Thirty out of the 46 Israeli wholesalers (65%) stated that they are currently doing business with Palestinian trading partners. Twelve of the remaining 16 wholesalers used to trade with Palestinians in the past. All Muslim traders (Arab Israelis) and 48% of the Jewish Israelis have Palestinian partners. The majority (particularly Jewish Israelis) sells to Palestinian traders while a minority (only Arab Israelis) also buys from Palestinian colleagues in the West Bank.

Figure 5 presents detailed insights into the reasons for and against such professional contacts. It shows the answers of Israeli wholesale traders concerning business relations with Palestinian counterparts depending on whether they currently trade with them (“yes”) or not (“no”). Sizable deviations between both groups can be observed. Compared to their colleagues not engaged in trade with Palestinians, many more of the Israeli traders having business contacts do not perceive Palestinians as unreliable (item 1). They also view such relationships less frequently as being too dangerous (item 3) or too risky (item 4). They also report having fewer bad experiences than the group without such contacts. Israeli traders without such links more often report not having any contacts to the Palestinian Territories (item 6). Item 2 (too many administrative difficulties to afford trade with Palestinians), item 5 (refusal of collaboration with Palestinians on principle) and item 8 (low quality of Palestinian products) do not show noticeable differences between the two groups. This indicates that neither administrative difficulties nor refusal on principle are reasons not to trade with Palestinians. However, the quality of Palestinian products was criticized. In five of the eight items, the variation between the answers of the Israeli traders with existing connections – measured by the inter-quartile range (IQR) – is less spread than for the other group.

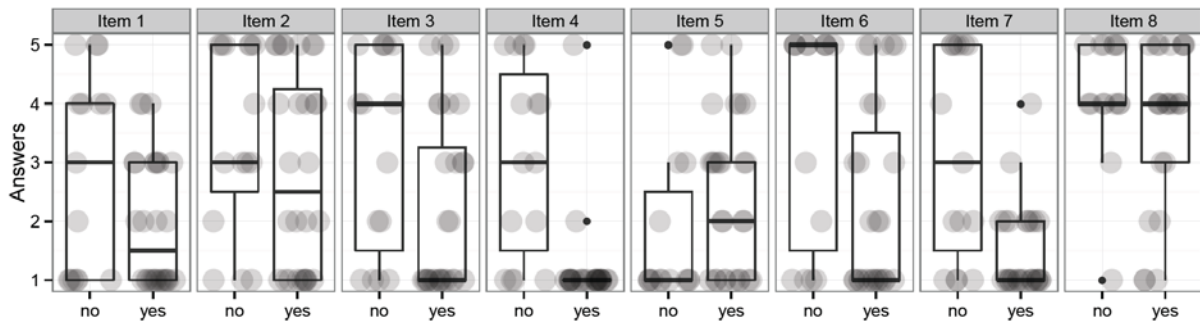


Figure 5: Evaluation of trade relationships with Palestinian partners

Notes: Likert-Scale: 5 = “Strongly agree”; 3 = “Neither agree nor disagree”; 1 = “Strongly disagree”. The bold line in the box plots denotes the median, the half-transparent circles mark the observations and the small black circles mark outliers outside beyond the rough 95% interval for the median of $1.58 * IQR / \sqrt{N}$ (WICKHAM 2009). Graphics generated with R (R CORE TEAM 2013).

Source: Authors’ calculations.

Table 3 shows the p-values of the tests for differences in the perceptions between Israeli traders with and without current business relationships with Palestinians. We employ a number of tests in order to obtain robust evidence on whether the evaluations between both groups of Israeli traders differ significantly. Since the measurements are ordinal (Likert-scale), we employ nonparametric tests, which are independent of distributional assumptions of the data (compare, e.g. SIEGEL 1988).

Table 3: P-values of difference tests on the perceptions of trade relations depending on current trade status

	Item 1 unreliable	Item 2 administrative effort	Item 3 dangerous	Item 4 too risky	Item 5 principal refusal	Item 6 no contacts	Item 7 bad experiences	Item 8 bad quality
N	43	43	43	43	42	42	44	38
Test								
Median	0.43	0.93	0.33	<0.01***	0.30	0.13	0.03**	0.80
Kolmogorov- Smirnov	0.10	0.55	0.31	<0.01***	0.26	0.04**	<0.01***	0.92
Whitney- Mann	0.11	0.26	0.05*	<0.01***	0.13	0.03**	<0.01***	0.30

Notes: One, two and three asterisk(s) denote significance at the 10%, 5% and 1% level, respectively.

Source: Authors’ calculations.

Significant differences between traders with and without links to Palestinians in assessing relations with Palestinians become obvious. Traders without links are significantly more likely to perceive such relations as too dangerous (item 3) as indicated by the Whitney-Mann-Test. There are pronounced differences between the two groups in their risk perception of such relationships and in the negative experiences they may have had with Palestinians. Moreover, they have significantly fewer contacts to the Palestinian Territories (item 6), which

is supported by two of the three tests. Although items 1, 2, 5 and 8 do not show significant differences between the two groups, there is a slight tendency that Israelis engaged in trade with Palestinians have more positive opinions (items 1, 2 and 8). The group-specific answers to items 2 and 3 indicate that traders without existing contacts seem not to be concerned about trade frictions created by the conflict.

The following logistic regressions model the probability of the existence of trading links between Israelis and Palestinians. Because of the small sample size, we consider robust standard errors and estimate it for each variable set separately.³ Variables potentially explaining the existence of active relationships are classified into four subgroups: personal characteristics, business characteristics, attitudes regarding the conflict, and personal experiences with and opinions about Palestinians. Table 4 reports the effects of personal characteristics.⁴ The level of education and the financial situation are significant at the 10%-level. The better the education (financial situation) of the Israeli wholesaler the higher (lower) is the probability of being engaged in business with Palestinians. Risk behaviour, age and preference for the conservative Likud party do not exert significant impacts. These findings imply that increased personal openness and reduced uncertainty and prejudices due to higher education improve contacts. On the other hand, well-off Israeli traders seem to avoid the risks associated with business relations with Palestinians.

Table 4: Factors influencing trade with Palestinians: personal characteristics

Explanatory var.	Description	Coefficient	Robust st. err.
Constant		0.40	1.97
Willingness to take risk	3 categories	0.02	0.69
Financial situation	Dummy: 1= very / somewhat good	-2.04*	1.17
Age	4 categories	-0.44	0.60
Education	3 categories	1.61**	0.77
Likud	Dummy	1.66	1.76

N = 35

R²(McFadden)=0.29

Notes: One, two and three asterisk(s) denote significance at the 10%, 5% and 1% levels, respectively. Willingness to take risk is measured on a scale from 0 to 10 and classified into three categories. Category 1 encompasses the degrees 0 to 3 on the scale and means “risk-averse”, category 2 degrees 4 to 6 (risk-neutral) and category 3 degrees 7 to 10 and means “willing to take risk”. Education is classified into less than 12 years of schooling (category 1), 12 years of schooling (category 2), and more than 12 years of schooling (category 3). Age is classified in categories less than 41 (category 1), 41 to 50 (category 2), 51 to 60 (category 3), and older than 60 (category 4).

Source: Authors’ calculations.

Table 5 shows the associations of the extent of personal social contacts to Palestinians and attitudes towards trade with them with the existence of a business relationship. While the

³ The number of observations differs for each model as all available answers have been used, respectively.

⁴ Several other specifications have been considered however without significant results. Especially the variable location of the Israeli wholesaler does not have explanatory power. This suggests that there is not a regional divide within Israel (since the Jewish and the Arab Israeli population appears to be clustered in certain parts of the country) regarding the existence of Israeli-Palestinian contacts. It also implies that Arab Israelis are not more likely to have such contacts.

private social network significantly favours business contacts, the perceptions of Palestinians constitute strong impulses against such relations. The more Palestinian friends the interviewed Israeli trader has the more probable is his engagement in trade with Palestinians. This is particularly the case for Arab Israelis since they belong to the same ethno-linguistic group as Palestinians.

For the last two groups of variables (attitudes concerning the Israeli-Palestinian conflict and business characteristics) models have been estimated but the hypothesis that the coefficients are equal to zero could not be rejected. There is a tendency discernible that traders who agree that Palestinians suffer most from the conflict are more probable to trade with them, while traders who agree that only Palestinians are responsible for the lack of its solution are less probable of being engaged in trade with them. The bigger the shop and the longer the wholesaler has been working in his job the more probable is a business relationship with Palestinians.

Table 5: Factors influencing trade with Palestinians: contacts and attitudes

Explanatory variable	Description	Coefficient	Robust st. error
Constant		0.03	0.98
Number of Palestinian Friends	4 categories	0.78**	0.35
Unreliability of Palestinians	Dummy: 1= strongly / rather agree	-2.03*	1.12
High risk of trade with Palestinians	Dummy: 1= strongly / rather agree	-3.17**	1.26

N = 37
R²(McFadden)=0.35

Notes: Meaning of asterisks as in Table 4. Number of Palestinian friends is classified in categories from 1= no friends; 2 = 1 to 5; 2 = 5.5 to 20 (answers such as “5-6” are coded as 5.5); 4= more than 20 (including answers like “many” or “all”).

Source: Authors’ calculations.

Figure 6 shows the traders’ perceptions of the temporal development of the conditions resulting from the political framework towards business relationships with Palestinian counterparts. Items 1a and 1b measure the recall of the state of these conditions by the traders before the Second Intifada (late 2000, networking in general vs. business activities in general) and item 2 the traders’ expectations for the end of 2016. Concerning all three aspects, traders with existing links appear to distinguish fewer obstacles for such contacts. This is evident as the median answers are higher for this group. They feel that the conditions did not change in the past (items 1) and will not in the future (item 2) in comparison to the present. Traders without existing contacts tend to evaluate both past and future conditions as more difficult than currently.

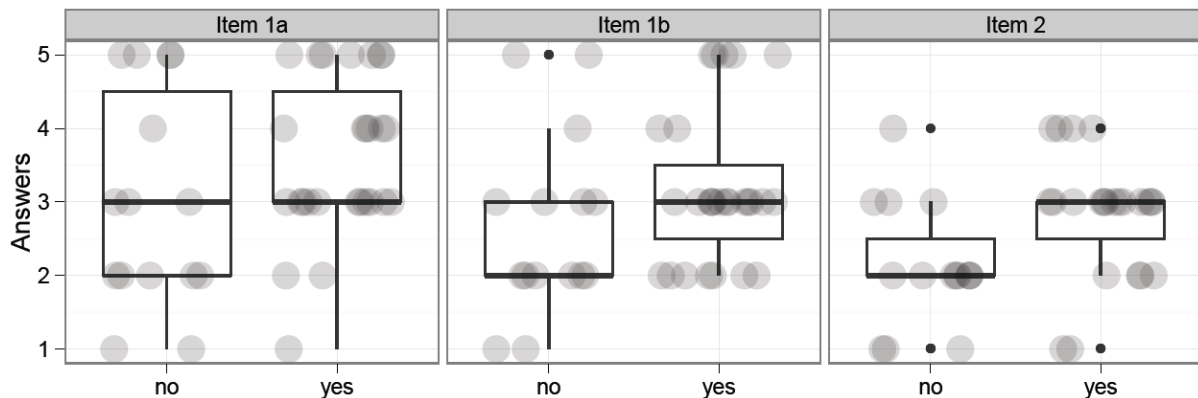


Figure 6: Evaluation of business relations with Palestinians in the past and future

Notes: The answers on the Likert-Scale mean 5 = “Much easier”; 3 = “No difference”; 1 = “Much more difficult”. Otherwise the notes of Figure 5 apply. For the number of cases for each item see Table 6.

Source: Authors’ calculations.

There is considerable variation within the memories of the conditions before the Second Intifada. A very high degree of accordance of negative expectations towards the future is found among traders without contacts while the IQR of the answers of Israeli traders with existing contacts remains constant. Wholesalers having links to Palestinians are significantly less pessimistic regarding the future. The p-values of the three non-parametric tests for differences in the perceptions between the two groups of traders in Table 6 show that in two of three cases only the perceptions regarding the future significantly differ. That is, traders with existing contacts have a statistically more optimistic outlook on the future regarding their business relationships with Palestinians.

Table 6: Differences in the evaluation depending of the current existence of trade relations

	Item 1a	Item 1b	Item 2
N	42	42	38
Test			
Median	0.55	0.96	0.64
Kolmogorov-Smirnov	0.11	0.35	0.02***
Whitney-Mann	0.14	0.11	0.01***

Notes: One, two and three asterisk(s) denote significance at the 10%, 5% and 1% level, respectively.

Source: Authors’ calculations.

4.2 Trading network

Figure 7 shows both the structure and the intensity of the Israeli-Palestinian trading network as reported by the Israeli wholesalers. The extent is characterized by more than 34 bilateral links between Israeli and Palestinian wholesale markets. Most connections exist to Jenin and Nablus each having five links of varying intensity to different Israeli markets. On the Israeli side, the markets in Tsrifin, Jerusalem and Nazareth have 12, 9 and 7 links, respectively, and

are the most comprehensively connected. In five of the nine Israeli markets barely any contacts to Palestinian counterparts were reported.

Based on the total 127 links between single Israeli Palestinian wholesalers, the intensity of the network can be deduced. Trade links were reported to be most intense within major population centres in the West Bank. These major centres are: Nablus (61% of Israeli traders engaged in trade with Palestinians have trading partners here), Ramallah (61%) and Bethlehem (57%), and Hebron (64%). These cities account for more than half of all contacts reported. In particular, traders located in Tsrifin and Jerusalem dominated these connections, accounting for 84% of traders. This is plausible given the importance of the former market for regional fruits and vegetables trade and the geographic proximity of the latter to the West Bank. For example, all Israeli traders who reported relationships with Palestinians had links both to Ramallah and to Bethlehem. Conversely, the Israeli markets of Tsrifin and Jerusalem are by far the most important partners for all Palestinian markets south of Nablus.

Figure 7 Most intensive business contacts tend to be maintained with nearby districts. Especially traders from Tsrifin report trading with Palestinians from Gaza. Traders in Jerusalem especially maintain business connections with Palestinians from the neighbouring districts Ramallah, Bethlehem and Hebron. Similar to Jerusalem, traders from Tamra and Nazareth interact with Palestinians from neighbouring regions, that is, the northern part of the West Bank and the Jordan Valley.

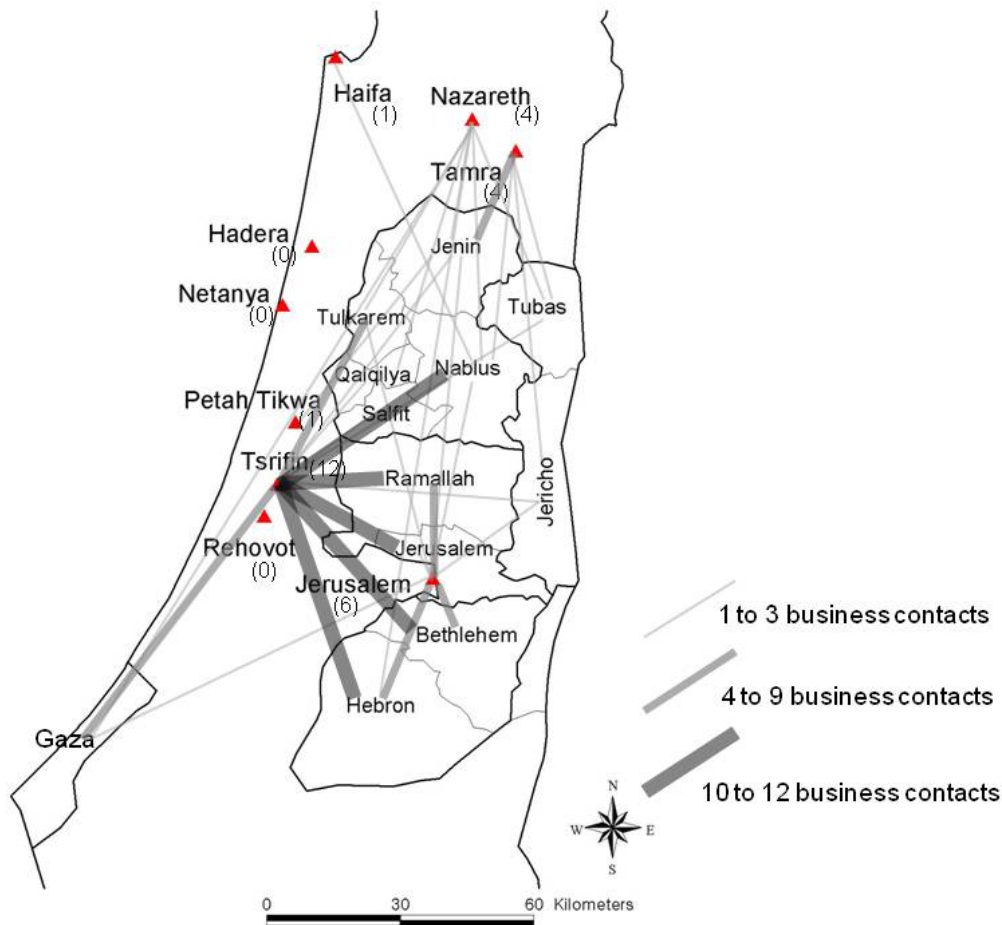


Figure 7: Extent and intensity of Israeli- Palestinian trading relationships

Notes: The number in parentheses below the Israeli market names denotes the total number of its traders engaged in trade with Palestinians. The width of the line indicates the intensity of professional contacts between a pair of markets. Tsrifin is the central fruits and vegetables wholesale market of Israel located in the Tel Aviv Metropolitan Area where more than 3 million Israelis (about 40% of the entire population) live and to which also, e.g., Petah Tikwa and Rehovot belong. Nine Israeli and twelve Palestinian wholesale markets are considered.

Source: Authors based on PCBS (2011a: 3).

Business with Palestinians consists mainly in an informal manner: it happens accidentally (N=10) or is based on oral agreements (N=13). In most of the cases the trading partners report meeting each other on the Israeli market (N=21) and confirming their agreement by a handshake. Sometimes business with Palestinians is reported as being arranged by phone. Interviewees emphasize that products are only sold through cash payment. This finding corresponds with the study of WFP (2009) indicating that credit is granted to Palestinians less frequently.

Israeli traders know only a little about transport of products traded with Palestinians because they are not actively engaged in the transport. This indicates that transport is mainly organized by the Palestinian partners. The information given is vague and it could be that products shipped on Israeli trucks may have originated from a back-to-back-procedure. Traders

engaged in business with Palestinians were asked about their three most important Palestinian trading partners and about the products they trade most with these traders. Many more Israelis sell to Palestinians than buy from them. Fruits are exclusively sold to Palestinians while vegetables are traded in both directions. This pattern reflects the production pattern of both sides; Arab-Israeli traders in the northern cities (Nazareth, Tamra) buy specific vegetables. The mainly Arab-Israeli population living in this region has a certain demand for vegetables, which are traditionally used in the local diet, but rarely produced by Israeli agriculture.⁵ Most of the bought vegetables come from the northern part of the West Bank and the Jordan River area (main production areas in the West Bank). Surprisingly, traders did not particularly mention the exceptional role of cucumbers, which according to Israeli trade statistics account for half of the vegetables imported from the Palestinian Territories. This might indicate that Israeli canning factories process most of it and rely on other delivery channels.

4.3 Problems with the trading relationship

Only a few problems are reported to occur in the trading relationships. 25% of the Israelis engaged in trade with Palestinians stated that during the last six months problems in the trading relationships occurred often while 68% never or seldom experienced problems (7% did not answer the question). In total, 21 different problems were mentioned. One third of them refers to payment behaviour and one quarter to the effects of the West Bank Barrier occasional closures. Problems are most often related to the security and political situation. Traders mostly refer to security measures and closures of crossings. It is noticeable that especially Arab Israeli traders highlighted this kind of problem. In Tsrifin the lack of free entrance was criticized - not only for Palestinians to Israel but for Israelis to the Palestinian Territories as well. The second category of problems refers to the payment behaviour of Palestinian buyers, which can be further classified in payment delay and payment default. Especially, traders from Tsrifin, one trader from Jerusalem and one trader from Nazareth mentioned payment behaviour problems. Connected to this topic is the lack of access to the Palestinian Territories, which is mentioned by Arab Israelis. The third category of problems is related to prices of Palestinian products. As traders from Nazareth and Tamra are the only traders to buy products from Palestinians the problem is only of importance in this region. Palestinian exporters are able to obtain high prices for their products, because of very specific products with only few competitors. This indicates oligopolistic market structure. Further problems occasionally mentioned are the low quality of Palestinian products and rather general economic problems in Israel and the Palestinian Territories.

5 CONCLUSIONS

The unique dataset collected from Israeli fruits and vegetables wholesalers permits manifold insights into the institutional framework of the economic interactions with Palestinian counterparts which are subject to violent conflict. As the majority of the interviewed Israelis report doing business with Palestinians, we conclude that there is strong evidence of extensive professional networks, at least between the members of the parties of the conflict who work in the sector. Traders' education and the extent of friendship contacts to Palestinians appear to be the most important factors favouring such relationships. This result seems plausible because education can be associated with openness of mind and curiosity for contacts to the "other side". The social networks of the Israeli traders with Palestinians facilitate the overcoming of societal and social obstacles, which are otherwise likely to impede the establishment of such relationships.

⁵ Among these is okra, a special variety of zucchini, which is used for stuffing, and other particular local varieties, e.g., the more tasty *baladi* breeds of zucchini, eggplants or peas and also fava beans for the preparation of the popular Arab dish of *ful*.

Israeli traders who have existing business relationships with Palestinians perceive such links as significantly less dangerous and risky. The general negative perception of professional contacts with Palestinians, which is quantified by these two attributes, represents two aspects of the implications of the conflict as perceived by the economic agents. On a personal level, it has to be assigned to fear and resentments originating from societal separation originating from the conflict. Societal separation is less prevalent for Israeli traders with existing Palestinian relations. Secondly, this negative view relates to the perception of an increased potential for frictions at the institutional level due to conflict-caused additional arrangements, e.g., security checks or movement limitations. These procedures are perceived as inhibiting economic activity and increasing the costs of the economic transactions. Furthermore, there is strong evidence that the traders with links to Palestinians have significantly more contacts to individuals of the other side of the conflict and experience their interactions with Palestinian counterparts as less negative than traders not trading with Palestinians. In other words, personal contacts and cross-conflict-networks seem to offset the predominantly negative stereotypes caused by the rifts of the conflict. Therefore, we find robust evidence to support the fact that economic interactions at an informal and non-official every-day level can provide one effective way to diminish or even overcome political division and societal alienation, which otherwise lead to mistrust, reservations and prejudices created and spread due to the political conflict.

Israeli traders perceive a continuous deterioration in the conditions needed to establish and maintain business links to Palestinians. Nonetheless, the traders with current contacts are significantly less pessimistic towards the future. In comparison to the perspectives of Palestinian wholesalers (WFP 2009), various asymmetries are discernible. In contrast to their Palestinian counterparts, Israeli wholesalers perceive low effects of the conflict on their businesses. They are, nevertheless, strongly in favour of a quick resolution of the conflict, whereby they value the societal benefits slightly higher than their own. In accordance with the asymmetries found Israelis have limited knowledge about the transport of goods to the Palestinian Territories and the related problems. This difference in the level of problems perceived may be recorded as the first aspect of asymmetry.

A second aspect of asymmetry regards the lack of access for Israeli traders to the Palestinian Territories, which is particularly severe for Jewish Israelis. This implies a high level of uncertainty, as Israeli traders have no measures towards their debtors in case of payment default. On the other hand, Israeli traders have no possibility to buy possibly cheaper Palestinian products on Palestinian markets resulting in a sub-optimal market outcome for Israeli traders. Most trading relations with Palestinians originate in the two largest Israeli wholesale markets and are connected to the population centres in the north, centre and south of the West Bank. While Gaza is mainly connected to Tel Aviv, Israeli traders from Jerusalem and northern Israel mainly interact with the closest Palestinian regions. Trade takes place in an informal way with Israelis mostly selling while their Palestinian counterparts usually care for the transport of the goods.

This study provides a micro-level analysis of Israeli-Palestinian cooperation despite violent conflict. We find evidence that strongly supports the liberal theory of peace (ONEAL AND RUSSET 1997). Existing economic interdependencies between Israelis and Palestinians improve the perception of their business counterparts on the other side of the conflict and lead to less pessimistic expectations about the future. Our field study evidence furthermore confirms the findings of GEORG et al. (2013) who observed under lab conditions that personal contacts between Israelis and Palestinians lead to improved cooperation.

Trading relationships that are established due to economic incentives facilitate professional and social contacts linking both conflicting parties in everyday life. These relationships potentially counter-act segregation and decrease the conflict potential. The results also show that the prolonged conflict creates obstacles to trade and welfare losses for both parties involved, which can only partly be overcome by personal contacts. This implies substantial potential for increasing trade between both sides of the Israeli-Palestinian conflict and realizing mutually beneficial gains from specialization. It represents one example of an effective informal grass-roots approach to reducing societal alienation and promoting rapprochement beyond official political negotiations. During the last decades, political negotiations have not resulted in sustainable tangible improvements of the conflict-induced hardships for either side. Pragmatic economic contacts are likely to be most robust against political abuse because the actions of the agents involved in such economic exchange are mainly driven by business considerations instead of polarised political and ideological perspectives.

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