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Economic cooperation despite of political conflict: Israeli traders' perception of Israeli-Palestinian food trade

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Discussion Papers

No. 151

**Economic cooperation despite of political conflict:
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trade**

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Economic cooperation despite of political conflict: Israeli traders' perception of Israeli-Palestinian food trade

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Abstract:

The ongoing political conflict between Israel and the Palestinian territories results in an increasing physical separation and societal alienation of both conflicting parties. In some contexts such as trade ongoing cooperation exists. We provide a micro-level analysis of economic interactions between Israeli and Palestinian wholesale traders of fruits and vegetables. We use a unique dataset gathered by a quantitative survey among Israeli wholesale traders in order to obtain evidence on their perspectives on this economic exchange. Trading patterns show vivid economic exchange of mainly informal character. Logistic regressions suggest that education and the personal social network play vital roles for the existence of Israeli-Palestinian trading relationships. Israeli traders feel not affected by the conflict but wish for its quick settlement. A low level of transaction problems is reported. They are mainly caused by the political and security situation and by the payment behavior of the Palestinian trading partners. Daily contacts of economic agents lead to continuous economic cooperation despite of ongoing political conflict and improve the perception of the actors of the other party.

Keywords: food trade, Middle East, quantitative survey, political conflict

JEL: F14, Q17, Z13

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1 Introduction

The ongoing political conflict between Israel and the Palestinian territories results in an increasing physical separation of both conflicting parties. In consequence of the Second Intifada⁵, Israel has implemented a variety of security policies and has been constructing a security fence around the West Bank, the so-called West Bank Barrier, since 2002. The resulting improvement of the security situation in Israel is accompanied by increased challenges regarding the living conditions in the Palestinian territories resulting from restrictions to the movement of people and goods.

In addition to the physical impediments created by the various security policies, legislation is a decisive factor. Israelis are by law not allowed to enter Area A⁶ of the West Bank and the Gaza Strip (World Bank 2007: 4). Palestinians need to apply for a permit to the Israeli Defense Forces (IDF) to enter to 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) finds 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. One prominent example is the labor market. While in 1999 23% of employed Palestinians worked in Israel (incl. settlements) their share dropped to 8% in 2004 (PCBS 2010; Miaari and Sauer 2011). Also inside Israel, the relationship between Jewish and Arab Israelis mirrors the increasing alienation. For example, Zussman (2012) studies the Israeli market for used cars and shows that the escalation of the Arab Israeli conflict leads to increased intolerance and segregation between Arab and Jewish Israelis.

However, with regard to trade the situation is different. As Israel is the most important trading partner of the Palestinian territories, economic exchange continues to exist in this sector of the economy despite the conflict. While trade is mainly based on a unilateral dependence of the Palestinian territories on Israel, the Palestinian territories are an important partner of Israel for food trade, too. Relationships between Israeli and Palestinian wholesale traders are substantially challenged by the political conflict and the resulting movement restrictions. Statistical data indicate ongoing trade but there is only some evidence on the institutional framework of trade between Israelis and Palestinians.

Therefore, the aim of our study consists in examining the way trade between Israel and the Palestinian territories is carried out and to analyze the institutional framework of this ongoing economic cooperation. In particular, we aim at providing an analysis of traders' networks by regarding the attitudes of Israeli traders regarding trade with Palestinians, trade patterns and transaction problems.

We provide a case study of the interdependencies of economic interactions on the one side and violent conflict and political polarization on the other. In the context of the Middle East, our case study contributes to the political theory of liberal peace which postulates that economically important trade will "reduce conflict because interstate violence adversely affects commerce, prospectively or contemporaneous" (Hegre et al., 2010). Our results support the liberal theory of peace research which

⁵ This term denotes the uprising of Palestinians which erupted in 2000 and lasted until ca. 2005.

⁶ The West Bank is divided in three administrative units, namely zone A, B and C. Zone A is administered by the Palestinian Authority and contains 4% of the territory and 30% of the population (areas marked orange in Figure 1).

argues that economic interdependencies foster peace because conflict contradicts mutually beneficial economic relationships (Oneal and Russett, 1997; Polachek and Xiang, 2010, etc.).

To our knowledge, our analysis is one of the few studies providing comprehensive insights into trade relationships subject to violent conflict from a micro-economic perspective. By focusing on the Israeli-Palestinian conflict, it furthermore represents a unique study of economic and personal relationships across the fierce ideological rifts of a long-lasting conflict of substantial regional importance. Furthermore, it is the first successfully conducted survey among Israeli wholesale traders. Our case study complements analyses such as of Chan (2009) who analyzes trade between the political rivals China and Taiwan and argues that commercial links can be used to calm down political conflicts and to implicitly express willingness for peaceful cooperation. A few analyses are explicitly dedicated to the Israeli-Palestinian conflict. Fershtman and Gandal (1998) 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”. Maoz (2011) assesses the development of reconciliation-oriented contact initiatives between Israelis and Palestinians and identifies and discusses four different models. Georg et al. (2013) examine the willingness of cooperation between Israelis and Palestinians by using a laboratory experiment. They find that direct personal contact between individuals belonging to the different groups sharply improves the readiness for cooperation. In contrast to these previous studies, our study focuses on the institutional characteristics of real economic interdependencies between members of both sides of the conflict. It therefore provides valuable additional insights which complement trade data published by statistical offices. Moreover, it explicitly regards the perceptions of the political situation, its causes and the consequences and challenges emerging from it for economic activities. This micro-level analysis concentrates on food trade since this sector represents an example of continuous and intensive economic interaction despite of the long-lasting political conflict. The insights gained complement the findings of the study of WFP (2009) which assesses the effects of Israeli security policies and worldwide high food price levels on fruits and vegetable markets in the Palestinian territories.

The remainder of the 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 results of the quantitative survey conducted among Israeli wholesale traders, analyzes trading patterns, and discusses in detail problems occurring during the transactions before section 5 summarizes and draws conclusions.

2 Trade relationships between Israel and the Palestinian territories

As Israel and the Palestinian territories constitute a tariff union only approximate data about the range of trade is available (PalTrade & Peres Center for Peace, 2006: 24).⁷ Therefore and due to the fact that the Israeli army is controlling almost all borders of the Palestinian territories, Israel is the most important trading partner of the Palestinian territories. Israel is the destination of roughly 90% of all Palestinian exports and about 74% of all imports originate from Israel. In contrast to this pattern, only 0.8% of all Israeli imports origin from and 4.6% of all exports go to the Palestinian territories (PalTrade & Peres Center for Peace, 2006) which points to a strongly asymmetric relationship.

⁷ One of the few sources are the annually in Hebrew published “Economic Report on Agriculture and Rural Areas in Israel” (IMoA, 2011a) or the foreign trade statistics of the Palestinian Bureau of Statistics (PCBS, 2011b).

However, with regard to fruits and vegetables, the Palestinian territories are an important trading partner for Israel. Israeli sales of fruit to the Palestinian territories account for about 20% of total fruit exports (including citrus), and for 30% of fruit exports not including citrus.⁸

The most traded fruits are bananas and apples. The Palestinian territories export mainly vegetables to Israel whereupon cucumbers are the most important agricultural good exported to Israel. Their share amounts to 50% of all exported vegetables (Ihle and Rubin, 2011: 4). Current trading patterns are the result of relative competitive advantages of Israel and the Palestinian territories, resulting from differences in climatic conditions and factor costs (e.g. the availability of relatively cheap labor in the Palestinian territories for labor-intensive vegetable production).

Table 1 shows the value of traded fruits and vegetables as well as their share in total trade from 1998 to 2007. Both Palestinian exports to Israel and imports from Israel to the Palestinian territories decreased significantly as a result of the Second Intifada. While exports continued to decrease imports have slightly recovered in 2007. These changes in the volume of trade with fruits and vegetables are valid as well for Israeli-Palestinian trade in general. 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. However, this positive development is only observable for the West Bank, trade with the Gaza strip has stagnated (PalTrade & Peres Center for Peace, 2006: 25ff).

Table 1: Trade with fruits and vegetables between Israel (IL) and the Palestinian territories (PAL) before and after the Second Intifada (in million US\$)

Year	Exports from PAL to IL		Imports to PAL from IL			
	Total	Fruits and vegetables	Total	Vegetables	Fruits	Fruits and vegetables
1998-2000	550	45 (8.2%)	2450	35 (1.4%)	45 (1.8%)	80 (3.2%)
2005	425	17.5 (4.1%)	2350	13.5 (0.6%)	27.5 (1.2%)	41 (1.7%)
2007	455	12.1 (2.6%)	2443	n.s.	n.s.	54,6 (2.2%)

Note: The number in parentheses denote 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.

Comprehensive trading relationships between both territories are observable. The political conflict is influencing trade and impedes the exchange of goods to some degree. There is a pronounced dependence of the Palestinian territories on Israel because of the dominant share of Israel in trade.

The violent escalation of the conflict during the Second Intifada has hit both economies harshly (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 the control of movement between Israel and the West Bank. For crossing the barrier Palestinians require a license. While increasing security in Israel, the barrier caused strong constraints for the inhabitants of the West Bank and curbed economic interactions between both sides. Ihle and Rubin (2011) show that these security responses taken due to the conflict affect parts of the

⁸ Authors calculations for 2011 based on ICBS (2012) and IMoA (2012).

Palestinian economy as well as the Israeli one. With regard to trade, the transport of goods between Israel and the Palestinian territories is channeled by truck through commercial terminals marked in Figure 1. As Palestinian trucks are not allowed to enter Israel the transported goods have to be unloaded from the Palestinian truck and reloaded to an Israeli one (so-called back-to back procedure) (Berends, 2008: 63). According to various sources, the process including waiting and checking consumes on average between 30 minutes to almost 2 hours, depending on the direction of transport (World Bank, 2008b: 8; PalTrade, 2010: 3). Alternatively, Palestinian exports to Israel can be transported by an Israeli truck or by Israeli settlers which avoids the back-to-back procedure (World Bank, 2008b: 7ff.).

Inside the West Bank, a diverse system of impediments including permanent and temporary checkpoints and different kinds of road blocks are implemented depending on the security situation. Taken together the described security measures result in increased transport time and costs as well as in a high degree of risk and uncertainty for Palestinian wholesale traders.

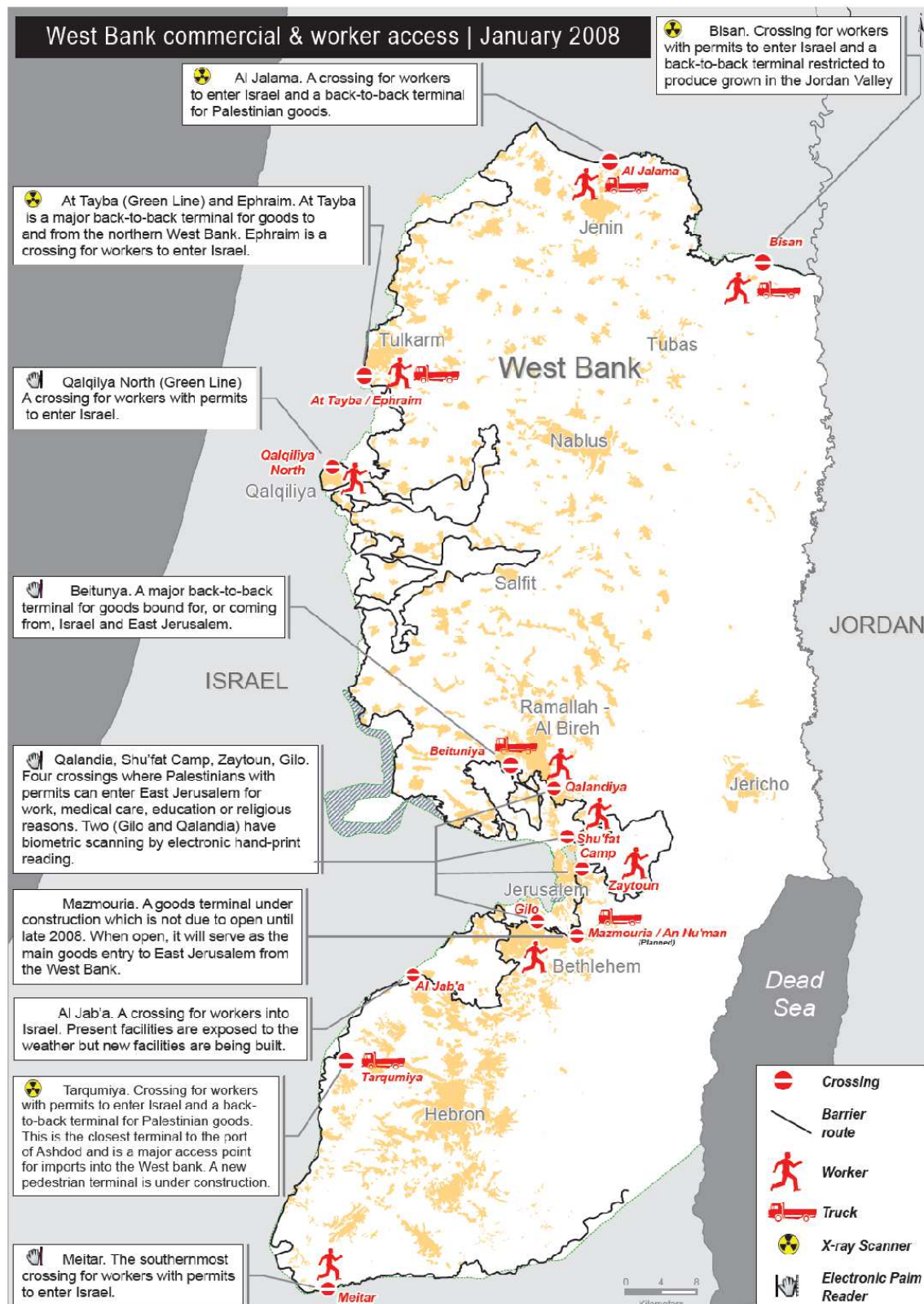


Figure 1: Commercial terminals of the West Bank Barrier

Source: OCHAOPT (2008).

The literature offers only 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. The study of

the WFP (2009) 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 on the central Israeli wholesale market in Tsrifin next to Tel Aviv or directly from producers in Israeli settlements in the West Bank. Importers from the Gaza strip do their business by phone without examining the goods before. Importers are price takers without room for negotiations. The willingness of Israeli sellers to allow a credit has declined since 2007. 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 identified. They try to use Israeli trucks whenever possible. Palestinian exporters do not have possibilities for price negotiations with their Israeli sellers but they have a powerful position vis-à-vis the Palestinian producers they buy from.

3 Data

The tool of our empirical analysis is a quantitative survey conducted among Israeli wholesale traders for fruits and vegetables. The resulting unique and comprehensive dataset enables us to carry out detailed analysis of the scope and structure of personal economic interactions. From October to December 2011, 51 traders out of a population of 144 traders in the whole country were interviewed of which 46 resulted in useable responses. Thus the sample covers roughly one third of the population. Figure 2 shows the locations of the survey as well as the number of interviewees. Most of the wholesaler shops are located in the densely populated areas of Israel, that is, in Jerusalem, Tsrifin (close to Tel Aviv), Haifa and Rehovot. In these cities, wholesale trade is concentrated in centrally organized markets while wholesalers in the remaining cities work independently. The survey was conducted in Hebrew. In the beginning wholesalers were asked to complete the questionnaire autonomously.

As a result of an unsatisfying return in the beginning due to strong mistrust, the survey mode was changed to face-to-face interviews and a lottery was introduced. Traders were informed that after finishing the survey five participants would be drawn receiving each 500 NIS (approximately 140 US\$). These two measures as well as a letter of reference from the manager of the wholesale market in Tsrifin significantly increased the response rate from 28% before to 81% after. In total, out of 80 traders asked for taking part in the survey 51 answered the questionnaire. Thus, the response rate for the whole survey amounted to 64%. The question of selection bias of traders which might to be more open and cooperative with Palestinians is important to be considered. A frequently stated reason for the rejections was that traders were unwilling to speak about any politics. This suggests that potential interviewees refused due to concerns about the political exploitation of their statements. Moreover, traders might have been suspicious due to doubts about cooperation of the surveyors with governmental institutions on tax matters etc. Particularly during the beginning of the survey these problems might have been issues, which, however, seem to have been solved later on since sufficient responses of traders of both groups have been obtained.

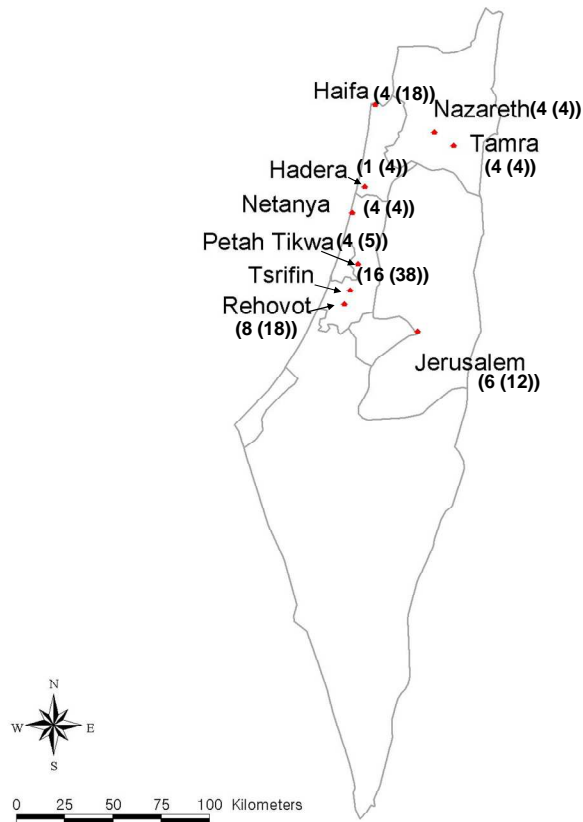


Figure 2: Locations of the survey. In brackets in the first place the number of interviewed wholesalers in the second the total number of registered wholesalers.

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

Table 2 and Figure 3 characterize the sample of our study. Most of the wholesalers have been working for 21 years or more in their business hence they possess a huge pool of experience in their business. The business sizes reveal big differences while traders themselves tend to judge the size of their business as average compared to their colleagues in the same market. Two thirds of the interviewed traders are Jewish Israelis, 26% are Muslims (implying Arab Israeli ethnicity), while 7% did not indicate their religion. The ethnic distribution in the sample hence closely resembles the entire Israeli population as well as its geographical concentration, that is, Arab Israelis mainly live in the North of the country.

Table 2: Characterization of the sample

Variable	N	Min	Max	Median	Mean	Standard deviation
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	1.2
Employed people in the business (incl. owner)	45	2	42	10	13.44	8.53

Source: Authors' calculations.

Note: *Likert-Scale: 1 = "Clearly below average"; 3 = "Average"; 5 = "Clearly above average"

As Figure 3 shows, there is no clear relationship between wholesalers' attitude towards risk, his professional experience and the size of his company discernable.

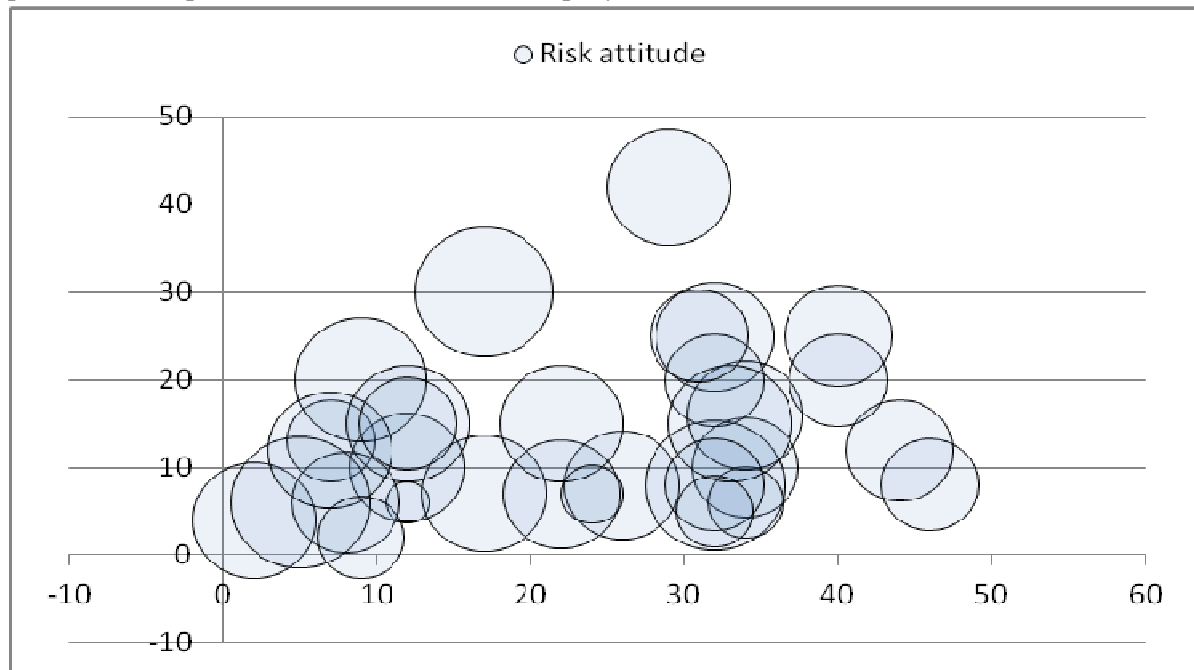


Figure 3: Risk attitude (circle size), professional experience (abscissa) and the number of employees (ordinate) of wholesalers

Source: Authors.

4 Results and discussion

As trade between Israelis and Palestinians takes place against the background of political conflict, we examine first how Israeli traders assess the role of the conflict on their business activities (Table 3). As illustrated by item 5, Israeli wholesalers are interested in and concerned about the conflict. However, they do not feel that their businesses are in any way impacted as shown by items 1 and 2. Interestingly, disagreement with item 2 is slightly higher indicating that they rather perceive negative consequences. Answers to the following two items confirm this finding. Traders strongly support the soon resolution of the conflict. They value the motivation of the general benefits for both sides slightly higher than their personal professional interest which indicates their awareness of the resulting comprehensive societal impulses.

Table 3: Wholesale trade and political conflict

Item-No.	Item	N	Median	Mean	Standard deviation
1	My business suffers from the Arab-Israeli conflict.	40	4	3.47	1.66
2	My business profits from the Arab-Israeli conflict.	41	5	4.39	1.12
3	The Arab-Israeli conflict should be resolved soon because it has too many negative consequences for both sides.	43	1	1.23	0.57
4	I wish that the Arab-Israeli conflict would be resolved soon because my business would benefit.	42	1	1.5	0.92
5	I don't care about the Arab-Israeli conflict.	41	5	4.46	1.12

Source: Authors' calculations.

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

4.1 Trade with Palestinians

30 out of 46 Israeli wholesale traders, e.g., 65%, stated that they are currently doing business with Palestinian trading partners⁹. 12 of the remaining 16 wholesalers used to trade with Palestinians in the past. All traders indicating themselves as Muslims (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.

Table 4¹⁰ presents detailed insights on reasons for these professional contacts. Significant differences between traders and non-traders in assessing relations with Palestinians appear. Traders not engaged in business with Palestinian traders are significantly more likely to perceive such relations as too dangerous (item 3) and too risky (item 4) due to the political situation than those who trade. Furthermore traders not engaged in trade agree significantly more strongly with the statements that they had bad experiences (item 7) and that they do not have any contacts to the Palestinian territories (item 6). Items 1, 2, 5 and 8 do not show any significant differences between both groups.¹¹ However,

⁹ The questionnaire contains a filter question splitting the sample in traders engaged and not engaged in trade with Palestinians which received different questions each.

¹⁰ . The items shown in Table 5 were used for Israeli traders not engaged in trade with Palestinians. The introducing question was “Why don't you currently do business with Palestinian traders?” For traders with contacts to Palestinians a positive (mirrored) wording was used, e.g. for item 1 “I consider Palestinians to be reliable. The introducing question was “Why do you cooperate with Palestinian traders?”

¹¹ With regard to item 5 it is counter-intuitive that non-traders disagree more strongly the given statement. This result is due to the fact of differently formulated statements for traders and non-traders. While non-traders were asked if they refuse to work with Palestinians in principle traders were asked if they support cooperation with Palestinians in principle resulting in a higher variance in this variable.

here is a tendency of traders engaged in trade with Palestinians to evaluate this relationship less negative (items 1, 2 and 8).

Table 4: Evaluation of Palestinian trading partners

Item No.	Item	N	Mean		Standard deviation		p-value
			No trade with PAL	Trade with PAL	No trade with PAL	Trade with PAL	
1	I consider Palestinian traders to be unreliable.	43	3.2	4.036	1.699	1.105	0.108
2	Doing business with Palestinian traders would mean too many administrative/ paper work difficulties.	43	2.6	3.1789	1.595	1.679	0.264
3	Dealing with Palestinian traders would be too dangerous	43	2.8	3.786	1.699	1.5	0.052*
4	Such a business relationship would be too risky because of the current political situation.	43	2.933	4.821	1.624	0.772	<0.001***
5	I refuse to work with Palestinians on principle.	42	4.133	3.593	1.457	1.338	0.134
6	I don't have any contacts to the Palestinian territories.	42	2.4	3.704	1.844	1.613	0.025**
7	I have had bad experiences with Palestinian traders.	44	2.75	4.536	1,77	0.745	0.001***
8	My quality standards aren't fulfilled by Palestinian traders.	38	1.8667	2.348	1.06	1.369	0.302

Source: Authors' calculations.

Note: Likert-Scale: 1 = "Strongly agree"; 3 = "Neither agree nor disagree"; 5 = "Strongly disagree"

For further characterization of Israeli-Palestinian food trade, we estimated various logistic regressions in order to explain probability of the existence of trading links between Israelis and Palestinians. Because of the small sample size, we consider robust standard errors. The explanatory variables are classified into four subgroups: personal characteristics, business characteristics, attitudes regarding the conflict and experiences with and opinions about Palestinians. For each subgroup the model has been estimated separately.¹² Furthermore information has been concentrated by using categories for metric variables and dichotomous variables for quasi-metric variables (Likert-Scale).

The model in Table 5 examines the effects of personal characteristics. 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.

¹² The number of observations differs for each model as all available answers have been used, respectively.

Risk behavior, 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, wealthy Israeli traders seem to avoid the risks associated with business relations with Palestinians.

Table 5: Factors influencing trade with Palestinians: Personal characteristics

Independent Variables	Coefficient	Robust Standard Error
Constant	0.4021277	1.96566
Willingness to take risk (3 categories)	0.015609	0.6880254
Financial situation (dummy, 1= very / somewhat good)	-2.036899*	1.168999
Age (4 categories)	-0.441361	0.5995109
Education (3 categories)	1.609172**	0.7683491
Likud (dummy)	1.662032	1.76429
N = 35		
R ² (McFadden)=0.294		

Source: Authors' calculations.

Note: One, two and three asterisks denote significance at the 10%, 5% and 0.1% 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 elder than 60 (category 4).

Table 6 shows the associations of the extent of personal social contacts to and attitudes towards trade with Palestinians with the existence of a business relationship.¹³ While the private social network significantly favors business contacts, the perceptions of Palestinians constitute strong impulses against such relations. The more Palestinian friends the interviewed traders had the more probable is his engagement in trade with Palestinians which is particularly the case for Arab Israeli traders since they belong to the same ethnolinguistic 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. In tendency they showed that traders agreeing that Palestinians suffer most from the conflict are more probable to trade with them while traders agreeing that only Palestinians are responsible for the lack of its solution are less probable of being engaged in trade with them. Furthermore the bigger the shop and the longer the wholesaler is working in his job the more probable is a business relationship with Palestinians.

¹³ The variables 'Unreliability of Palestinians' and 'Risk of trade with Palestinians' refer to items 1 and 4 in Table 4, respectively. Religion is not considered as it has only two categories (Muslim vs. Jewish) and all Muslim respondents trade with Palestinians resulting in zero variance of this variable.

Table 6: Factors influencing trade with Palestinians: Contacts and attitudes

Independent Variables	Coefficient	Robust Standard Error
Constant	0.0309831	0.9771219
Number of Palestinian Friends (4 categories)	0.7844254**	0.3477046
Unreliability of Palestinians (dummy, 1= strongly / rather agree)	-2.02658*	1.120916
High risk of trade with Palestinians (dummy, 1= strongly / rather agree)	-3.167174**	1.256873
N = 37		
R ² (McFadden)=0.353		

Source: Authors' calculations.

Note: Meaning of asterisks as in Table 5. Number of Palestinian friends is classified in categories from 1= no friends; 2 = 1 to 5; 3 = 5.5 to 20 (answers such as "5-6" are coded as 5.5); 4= more than 20 (including answers like "many" or "all").

Table 7 shows the means and standard deviations of the evaluations of past and future trade conditions. A larger number denotes increased challenges. It also highlights the differences between traders currently engaged and not engaged in trade with Palestinians by using a Whitney-Mann-Test. It measures the temporal change in traders' perspectives on the favorability of the political and economic frameworks towards business relationships with Palestinians. In tendency, traders expect a continuous deterioration of conditions since the future (past) is evaluated worse (better) than the present state. The rating of non-traders is even more negative. With regard to the future wholesalers engaged in trade with Palestinians are significantly less pessimistic.

Table 7: Trade with Palestinians in the past and in the future

Item No.	Item	N	Mean		Standard deviation		p-value
			No trade with PAL	Trade with PAL	No trade with PAL	Trade with PAL	
1	Compared to today, <u>before the Second Intifada</u> it was easier or more difficult...						
a	...to network with Palestinian traders.	42	3	2.407	1.464	1.083	0.136
b	...to maintain business activities with Palestinian traders.	42	3.3	2.815	1.234	1.039	0.112
2	<u>In five years</u> will it be easier or more difficult to trade with Palestinians?	38	3.867	3.174	0.891	0.834	0.012**

Source: Authors' calculations.

Note: Meaning of asterisks as in Table 5.

Likert-Scale: 1 = "Much easier"; 3 = "No difference"; 5 = "Much more difficult".

4.2 Trading pattern

Table 8 shows the regions of origin of Palestinian partners the wholesalers of the respective Israeli markets are trading with. Trade links are reported most frequently to the major population centers in the West Bank which are the regions of Nablus in its North (61% of trader engaged in trade with Palestinians have trading partners from there), Ramallah (61%) and Bethlehem (57%) in its center around Jerusalem, and Hebron in its South (64%) (compare Figure 1 above). In particular, Israeli traders located at Tsrifin and Jerusalem seem to possess such intensive links. This finding is plausible given the dominant role the Tsrifin market plays in Israeli fruits and vegetables wholesale trade and the geographic proximity of Jerusalem to the central West Bank regions. In addition, especially traders from Tsrifin trade with Palestinians from Gaza. While traders from Jerusalem as well as traders from Tamra and Nazareth trade especially with Palestinians from neighboring regions.

Table 8: Regions of origin of Palestinian trading partners

Palestinian region	Petah Tikwa (1)	Haifa (1)	Tsrifin (12)	Jerusalem (6)	Nazareth (4)	Tamra (4)	Total (28)
<i>North</i>							
Jenin	1		2	1	3	4	11 (39%)
Tulkarem			9	2	1		12 (43%)
Nablus		1	11	2	2	1	17 (61%)
Salfit			1				1 (4%)
Qalqilya			3		1		4 (14%)
<i>Jordan</i>							
Tubas			1		1	1	3 (11%)
Jericho			3	2		2	7 (25%)
<i>Center</i>							
Ramallah			11	6			17 (61%)
Jerusalem			11	2			13 (46%)
<i>South</i>							
Bethlehem			10	6			16 (57%)
Hebron			12	5	1		18 (64%)
<i>Gaza</i>							
Gaza			6	1	1		8 (29%)

Source: Authors.

Note: In the first row the total number of traders engaged in trade with Palestinians in the respective market is noted in parentheses.

Business with Palestinians is mainly of informal character: it happens accidentally (N=10) or is based on oral agreements (N=13). In most of the cases the trading partners meet each other on the market (N=21) and confirm their agreement by hand shake. Sometimes business with Palestinians is arranged

by phone. Interviewees emphasized that products are only sold by cash. This finding corresponds with the study of WFP (2009) indicating that credit is granted to Palestinians less frequently.

Israeli traders were asked about the way of transport used to ship the products from / to the Palestinian territories. To their knowledge products are mainly transported by the back-to-back-procedure (N=9) or using an Israeli truck (N=6). However 12 out of 28 stated that since they were not affected by the transport of the goods they did not know which ways are used. Furthermore 7 traders said that products are delivered using a Palestinian truck, 2 stated that partly they transport the goods by themselves. The number of observations shows that traders know only a little about transport of products traded with Palestinians. Transport is not an important topic for Israeli traders. The information given is vague as products shipped on an Israeli truck may origin from a back-to-back-procedure. The answers stating that a Palestinian truck is used indicate a lack of knowledge as to our knowledge this option is not possible.

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. Much more Israelis sell to Palestinians than buy from them. It is salient that fruits are exclusively sold to Palestinians while vegetables are traded in both directions. This pattern reflects the production pattern of both sides: vegetables are especially bought by Arab-Israeli wholesale traders in the Northern cities in Israel (Nazareth, Tamra). 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.¹⁴ 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).

Fruits are exclusively sold to Palestinians. The most important selling point is the Tsrifin market. From there fruits are sold to all regions in the Palestinian territories. Main traded fruits are apples, citrus and grapes. Our results indicate that the trading center for selling to the Palestinian territories is especially Tsrifin; while products from Palestinians are mainly bought in Nazareth and Tamra.

4.3 Problems in the trading relationship

All in all, only few problems occur in trading relationships. 25% of the traders engaged in trade with Palestinians stated that during the last six months there occurred often problems in the trading relationship while 68% experienced never or seldom problems (7% did not answer this question). Table 9 gives an overview of all problems mentioned. Problems are most often related to the security and political situation (overall 8 statements). Traders mostly referred to security measures and closure of crossings (especially close to holidays and remembrance days). It is noticeable that especially Arab Israeli traders from the North of Israel (Nazareth and Tamra) highlighted this kind of problem. In Tsrifin the lack of free entrance was criticized - not only to Israel but to the Palestinian territories as well. There is an imbalance of access to the neighboring territory: while Palestinian traders are hampered to enter Israel by the security measures Israelis are on the one hand officially not allowed and on the other hand afraid to enter the Palestinian territories due to security concerns.

The second category of problems (6 statements) refers to the payment behavior of Palestinian buyers which can be further classified in payment delay and payment default. This topic was especially mentioned by traders from Tsrifin, one trader from Jerusalem and one trader from Nazareth. As well in this context the lack of access to the Palestinian territories is mentioned this time by an Arab Israeli. The third category of problems (3 statements) is related to prices of Palestinian products. As especially traders from Nazareth and Tamra buy products from Palestinians the problem was only of

¹⁴ Among these is okra, a special variety of zucchini, which is used for stuffing, and other particular local varieties of zucchini, eggplants or peas and also fava beans for the preparation of the popular Arab dish of *ful*.

importance in this region. Because of very specific products and only some competitors Palestinians exporters are able to obtain high prices for their products, indicating a kind of oligopolistic market structure. Further problems hardly mentioned are the low quality of Palestinian products and rather general economic problems in Israel and the Palestinian territories (2 statements each).

Table 9: Problems in the trading relationship with Palestinians

No	Category	Comment	Market
	Political and security situation		
	In general		
1		Politics, Barrier crossings, checkpoints, Barrier closings, blockades	Naz
2		Political and security situation affect trade with Palestinians.	Naz
3		Security measures	Tam
	Crossings		
4		During holidays much fewer traders able to enter Israel because of security measures	Tsr
5&6		Closing of crossings	Naz & PT
7		No problem for Palestinians to enter Israel. But Israelis can't enter the Palestinian territories freely.	Tsr
	Checking of trucks		
8		Way of checking at the crossings causes delivery delays . Sometimes truck to be un- and reloaded.	Tam
	Payment behavior		
9		Bank in the Palestinian territories not approved by Israeli banks of which Palestinians use checks, results sometimes in problems.	Tsr
	Payment delay		
10		Payment not timely	Tsr
	Payment default		
11		You can't cash them if they cheat you, e.g. invalid checks.	Jer
12		Buyer did not come by and pay his debt.	Tsr
13		Economic situation of Palestinian buyers isn't always good. Payment delays, checks aren't covered, lack of trust. If checks aren't covered, no possibility to get the money. Israelis can't enter the Palestinian territories, it's too dangerous.	Naz
14		Palestinians don't pay for the products they buy.	Tsr

Table 9: Problems in the trading relationship with Palestinians (continued)

	Price		
15		High prices for West Bank products	Tam
16		One reason for high prices is the taklid ¹⁵ . Palestinian traders insist on taklid prices but Israeli wholesalers expect them to offer their products for less. Small part of Palestinian traders profit from monopolisation.	Tam
17		During high Israeli prices more West Bank products enter; Israeli traders don't see the products before buying them; security forces allow only delivery of paid products.	Tam
	Product quality		
18 & 19		Low quality of the products	Tsr & Tam
	Other		
20		Economic situation in the West Bank	Naz
21		Israeli farmers damaged by West Bank products.	Tam

Source: Authors.

Note: Jer = Jerusalem; Naz = Nazareth; PT= Petah Tikva; Tam = Tamra; Tsr = Tsrifin.

5 Conclusions

The unique dataset collected among Israeli fruits and vegetables wholesale traders permits manifold insights into the institutional framework of the economic interactions between Israeli and Palestinian wholesaler which are subject to violent conflict. The majority of traders in the sample does business with Palestinians. Traders' education and extent of friendship contacts to Palestinians appear to be the most important factors favoring trade with them. This result seems plausible because education might be associated with openness of mind and curiosity for contacts to the "other side". Their social network with Palestinians will facilitate to overcome societal and social obstacles which are likely to impede the establishment of such relationships otherwise.

Israeli traders perceive a continuous deterioration of the conditions allowing them to establish and maintain business links to Palestinians although the ones with current contacts are significantly less pessimistic. 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 favor of a soon resolution of the conflict whereby the value the societal benefits slightly higher than their own. In

¹⁵ Taklid refers to the daily report of wholesale prices for vegetables published by the Israeli Plant Board.

accordance with this circumstances Israelis know only a little about transport of goods to the Palestinian territories and problems related to it. This difference in the level of problems perceived may be recorded as the first aspect of asymmetry.

A second aspect of asymmetry regards to lack of access for Israeli traders to the Palestinian territories which is particularly severe for Jewish Israelis. This implies, on the one hand, a high level of uncertainty as Israeli traders have no measures regarding 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 suboptimal market outcome for Israeli traders.

Most trading relations to Palestinians originate in the two largest Israeli wholesale markets and connect to the population centers in the North, Center 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 analysis provides a micro-level analysis of Israeli-Palestinian cooperation despite violent conflict. We find evidence which supports the liberal theory of peace (Oneal and Russett, 1997). Economic interdependencies between Israelis and Palestinians improve the perception of the 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 in the laboratory that personal contacts lead to improved cooperation.

Trading relationships which are established due to economic incentives facilitate professional and social contacts linking both conflicting parties in everyday life and potentially counteracting segregation and decreasing 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 to increase trade and realize mutually beneficial gains from specialization.

References

- Berends, G. (2008): Fear Loading in West Bank / Gaza: The State of Palestinian Trade. In: *Journal of World Trade* 42 (1): 151-175.
- Chan, S. (2009): Commerce between rivals: realism, liberalism, and credible communication across the Taiwan Strait. *International Relations of the Asia-Pacific* 9(3): 435-467.
- Fershtman, C. and N. Gandal (1998): The effect of the Arab boycott on Israel: the automobile market. *RAND Journal of Economics* 29(1): 193-214.
- Georg, S. J., Meise, J., Walkowitz, G. and E. Winter (2013): Experimental Study of Bilateral Cooperation Under a Political Conflict: The Case of Israelis and Palestinians. Cologne Graduate School in Management, Economics and Social Sciences working paper 4(1), University of Cologne, Germany.
- Hegre, H., Oneal, J. R. and B. Russett (2010): Trade does promote peace: New simultaneous estimates of the reciprocal effects of trade and conflict. *Journal of Peace Research* November 47(6): 763-774.
- ICBS (2012): Agricultural Production Quantity and Value.
- Ihle, R. and O. Rubin (2011): Movement Restrictions, Agricultural Trade and Price Transmission between Israel and the West Bank. Discussion Paper, No. 4.11. Hebrew University of Jerusalem, Department of Agricultural Economics and Management.
- IMoA (2011a): Israeli Ministry of Agriculture and Rural Development. Economic Report on Agriculture and Rural Areas in Israel (2011). Division of Research, Economics and Strategy, Jerusalem, Israel.
- IMoA (2011b): Personal communication on 02 Nov 2011. Israeli Ministry of Agriculture. Beit Dagan.
- IMoA (2012): Economic Report and Evaluation of the Agricultural Sector in 2011 (in Hebrew).
- Maoz, I. (2011): Does contact work in protracted asymmetrical conflict? Appraising 20 years of reconciliation-aimed encounters between Israeli Jews and Palestinians. *Journal of Peace Research* 48(1): 115-125.
- Masella, P. (2013): National identity and ethnic diversity. *Journal of Population Economics* 26: 437-454.
- Miaari, S. H. and R. M. Sauer (2011): The labor market costs of conflict: closures, foreign workers, and Palestinian employment earnings. In: *Review of Economics of the Household* 9 (1): 129-148.
- Oneal, J. R. and B. M. Russett (1997): The Classical Liberals Were Right: Democracy, Interdependence, and Conflict, 1950–1985. *International Studies Quarterly* 41(2): 267-294.
- PalTrade & The Peres Center For Peace (2006): The Untapped Potential. Palestinian-Israeli Economic Relations: Policy Options and Recommendations. Tel Aviv, Al Ram.
- PalTrade (2010): West Bank Crossings Bi-Monthly Monitoring Report. June – July 2010. Ramallah.

- PCBS (2009): Agricultural Statistics – Various Data, 2008. Ramallah.
- PCBS (2011a): Palestine in Figures 2010. Ramallah.
- PCBS (2011b): Registered Foreign Trade Statistics. Goods and Services 2009. Main Results. Ramallah.
- Polachek, S. W. and J. Xiang (2010): How opportunity costs decrease the probability of war in an incomplete information game. *International Organization* 64(1): 133-144.
- PCBS (2010): Labour Force Survey Annual Report: 2009. Ramallah, Palestine. April 2010.
- UN OCHAoPt (2008): Increasing Need, Decreasing Access: Tightening Control On Economic Movement. Report. January 2008, East-Jerusalem.
- WFP (2009): The Impact of closure and high food prices on performance of imported staple foods and vegetable and fruits market in the oPt. Report of the United Nations World Food Programme, December, Rome, Italy.
- World Bank (2007): Movement and Access Restrictions in the West Bank: Uncertainty and Inefficiency in the Palestinian Economy. Working Paper, No. 40445. Washington D.C.
- World Bank (2008b): West Bank and Gaza. Palestinian Trade: West Bank Routes. Report No. 46807 – GZ. Washington D.C.
- Zussman, A. (2012): Ethnic Conflict and Segregation in the Marketplace: Evidence from Israel. Working Paper, The Hebrew University of Jerusalem, Department of Economics.
- Zussman, A., Zussman, N. and M. O. Nielsen (2008): Asset Market Perspectives on the Israeli–Palestinian Conflict. *Economica* 75: 84-115.